
# MaineDOT

# MAINE'S UPDATED PLAN FOR ELECTRIC VEHICLE (EV) INFRASTRUCTURE DEPLOYMENT (MAINE'S NEVI PLAN)

*Submitted to Federal Highway Administration August 2023*

# Contents

# Introduction

The State of Maine welcomes the historic investments in electric vehicle (EV) charging infrastructure that will come through National Electric Vehicle Infrastructure Deployment (NEVI) Formula Funds. These funds will enable Maine to accelerate its current electrification efforts and thus support the federal goal of "a convenient, reliable, affordable, and equitable charging experience for all users."[1]

These funds align well with Maine's efforts to address climate change. In 2019, Governor Janet Mills, through LD1679, formed the Maine Climate Council (MCC). The MCC convened in June 2019 and, by September 2019, had formed seven working groups, including a Transportation Working Group that continues to meet regularly and an Equity Subcommittee. The overall *Maine Won't Wait*[2] report, published in 2020, addresses reducing emissions from the transportation sector, Maine's largest sector source of emissions.

Upon completion of Maine Won't Wait, Governor Mills signed an Executive Order in 2021, *An Order to Advance Clean Transportation Solutions for Maine*[3], which required the Governor's office and others to develop a Clean Transportation Roadmap to 2050. The state engaged with the Cadmus Group to research and write the *Maine Clean Transportation Roadmap*[4], which was published at the end of 2021. As noted in the *Maine Clean Transportation Roadmap*, released in December 2021:

> *The State of Maine is leading on climate action among peer states. In its 2020 Maine Won't Wait Climate Action Plan, the state lays out a bold set of strategies to reduce greenhouse gas (GHG) emissions by 45% by 2030 and 80% by 2050 and achieve carbon neutrality by 2045, and progress toward achieving these goals is real. For example, since 2019, the number of battery-electric and plug-in hybrid electric vehicles increased by 90% to 5,577 vehicles, and the number of public charging stations increased by 62% to 265 stations. The electricity that powers these vehicles continues to be cleaner as the state makes progress toward achieving its requirement of 80% renewable energy by 2030. Further, the state and regional partners continue to explore new approaches for providing public transportation efficiently and effectively, including innovative solutions in rural Maine, and in 2021 spent $11.55 per capita on public transit.*[5]

Efficiency Maine Trust (Efficiency Maine), a quasi-state agency that administers statewide energy conservation and greenhouse gas reduction programs, has been issuing and administering RFPs for Electric Vehicle Supply Equipment (EVSE) since 2018. Part of the funding for this work came through the VW Settlement funds administered by MaineDOT, which also participated in the process. MaineDOT and Efficiency Maine (the "Partnership") signed a formal agreement related to administering these and other charging infrastructure-related funding sources. To date, the Partnership has awarded funds for 395 charging ports at 136 locations throughout Maine. That includes 46 DC fast charge (DCFC) ports on the state's Alternative Fuel Corridors and 349 Level 2 (L2) publicly accessible "community" ports at businesses, municipalities, state agencies, multi-unit dwellings, and other public properties.

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[1] *https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf*

[2] *https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf*

[3] *https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/EO%2094%2036.pdf*

[4] *https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/Maine%20Clean%20Transportation%20Roadmap.pdf*

[5] *https:// www.maine.gov/future/sites/maine.gov.future/files/inline-files/Maine%20Clean%20Transportation%20Roadmap.pdf.*

Maine's process already has identified electrification for transportation as a key component for addressing climate change:

- 49% of Maine's GHG are from the Transportation sector.[6]
- The first Strategy listed in *Maine Won't Wait* to reduce GHG in transportation is "Accelerate Maine's Transition to Electric Vehicles." It sets ambitious targets for light-duty electric vehicle (LDEV) adoption by 2030 and 2050 and calls for developing a statewide EV roadmap to address charging infrastructure and other aspects of electrification.[7]
- *The Maine Clean Transportation Roadmap*, released in December 2021, cited an analysis of existing charging infrastructure and the State of Maine and Efficiency Maine's priority areas for expansion. The Roadmap examines three scenarios for EV adoption, then models the charging infrastructure needed to support each one. This is followed by a detailed analysis of charging infrastructure economics and estimates of funding needs through FY 2025 for public charging infrastructure. [8]
- The Transportation Working Group modeled 2030 and 2050 GHG reduction results for three different combinations of LDEV adoption, MHDEV adoption, and Vehicle Miles Traveled (VMT) reductions.
- The Roadmap recognizes range anxiety as a key barrier to transportation electrification.[9]

Maine's plan for NEVI formula funds includes completing DCFC on the Interstate and other Alternative Fuel Corridors (AFC). The Plan proposed complies with the NEVI Formula Program Guidance[10] and the National Electric Vehicle Infrastructure Standards and Requirements (Title 23 of the Code of Federal Regulations (CFR) 680)[11], effective March 2023. The Plan refers to targeted areas for other funding sources (not NEVI formula funds), which includes locations not on AFCs, but nevertheless are important to meeting Maine's goal of supporting EV travel from south to north and east to west with high-speed chargers at 50-mile increments.

**Graphic 1:** *Table of Other Funding Sources (not NEVI formula funds)*

| Funding | Charger Type | Location |
|---|---|---|
| Charging and Fueling Infrastructure (CFI) discretionary funds | DCFC and L2 | DCFC near multi-unit dwelling (MUD) cities and other towns lacking sufficient ports in rural areas along AFC; L2 at workplaces, community locations, top MUD cities, and rural service centers |
| American Recovery Plan Act (ARPA) funds | DCFC and L2 | Two remote and rural regions: Aroostook County (northern Maine) and Washington County (eastern Maine) |

Maine also proposes in-depth planning activities during the FY 2022-2026 period covered by NEVI funding. (See Plan Vision and Goals section.) The results of this planning work will help determine the most efficient use of NEVI funds later in the years.

Depending on the outcome of the Charging and Fueling Infrastructure (CFI) discretionary grant application that MaineDOT submitted in June 2023, Maine may pursue more discretionary grants for EV charging investments.

Recognizing the need to build a reputation of reliability for the EV charging infrastructure, Maine has developed the brand Recharge Maine to represent the state's effort to build a convenient, reliable, affordable, and equitable charging network statewide. Maine is building this brand concurrently with the NEVI Plan to align goals.

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[6] www.maine.gov/future/sites/maine.gov.future/files/inline-files/Maine%20Clean%20Transportation%20Roadmap.pdf, *Footnotes omitted*

[7] https://www.maine.gov/climateplan/sites/maine.gov.climateplan/files/inline-files/9th_GHG_Report_FINAL%20%282%29.pdf

[8] *Maine Won't Wait*

[9] *Maine Clean Transportation Roadmap*

[10] *Maine Clean Transportation Roadmap*

[11] https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf

[12] https://www.federalregister.gov/d/2023-03500

### Updates from the Prior Plan

This Plan has undergone a transformation since the original Plan was submitted to FHWA in 2022. Due to the substantive nature of the updates, many of the changes have been made throughout the text, though they are highlighted in some sections.

- EV Charging Infrastructure Deployment section: The Plan that was approved by FHWA in 2022 proposed a staged approach, which would have achieved full coverage of the AFCs within the NEVI funding period, and fully built-out status as demand grows and additional funding is available. However, the 2023 Plan has been updated to comply with the National Electric Vehicle Infrastructure Standards (23 CFR 680) and no longer includes the staged approach. The cost to build the charging stations to the NEVI standards is greater than the staged approach and, therefore, requires more funding.
- All sections: The Plan has been updated to meet NEVI guidelines and the National Electric Vehicle Infrastructure Standards (23 CFR 680). This includes the addition of proposed metrics to measure benefits in Disadvantaged Communities (DAC) and the Community Engagement Outcomes Report.
- EV Charging Infrastructure Deployment section: The budget and number of sites have been updated to include the Charging and Fueling Infrastructure (CFI) discretionary grant funds for which Maine applied.
- Maine has provided additional detail to the equity and workforce sections of this Plan, as requested in feedback from the 2022 Plan.

## State Agency Coordination

Maine already has significant experience with coordination between agencies. The Maine Climate Council (MCC) and Transportation Working Group (TWG) include, among many others, representatives from Maine's Department of Transportation (MaineDOT) and Department of Environmental Protection (DEP), the Governor's Energy Office (GEO), the Governor's Office for Policy Innovation and the Future (GOPIF), and Efficiency Maine.

The process to be followed for final approval of this Maine Plan for EV Infrastructure Deployment, Maine's NEVI Plan, before submitting it to FHWA, will mainly involve MaineDOT, the GEO, GOPIF, and Efficiency Maine. Those groups will review feedback received from the public engagement process and incorporate it into Maine's NEVI Plan as needed.

NEVI formula (and CFI discretionary, if awarded) funds will come to MaineDOT, then be transferred to Efficiency Maine, who will administer the RFP/grant process and disburse funds as charging infrastructure projects are completed. Maine already has over three years of experience operating in this way.

MaineDOT and Efficiency Maine are well-versed in federal procurement and Buy America rules and are prepared to ensure compliance with them in administering the NEVI formula funds, consistent with available guidance. Our contracts with the EV charging station owners will include Buy America Regulations.

### Memoranda of Understanding with other agencies

MaineDOT, the GEO, and Efficiency Maine have an agreement formalizing this working relationship, including structure and responsibilities, consistent with 23 CFR 680. The MOU outlines the nature of the contracts (design-build), compliance with NEVI federal regulations, and funding distribution. The FHWA Division Office has had an opportunity to review the MOU. MaineDOT will review all invoices submitted by Efficiency Maine. Members from each group are present on the RFP scoring teams, as well as a representative from the FHWA division office. MaineDOT, Maine DEP, Efficiency Maine, GEO, and GOPIF will work as a team that will continue to set policy for EV charging funds. The contacts each agency brings will be useful in outreach while developing Maine's NEVI Plan and implementing it. Regular meetings will allow for sharing expertise and experience, improving the results attained.

### Interagency Working Group(s)

MaineDOT and Efficiency Maine have been working in close coordination to prepare Maine's NEVI Plan efforts, including the recent CFI discretionary fund application. MaineDOT, the GEO, GOPIF, DEP, and Efficiency Maine meet monthly for a Transportation Electrification call to ensure clear communication. Discussions include updates on grant applications, program strategies, proposed pilot projects, open and future RFPs, and the continued evaluation of future locations as funding is received. The state will continue to use the MCC and TWG as resources. Maine's NEVI Plan is part of a larger effort, Recharge Maine, which represents the state's effort to expand EV charging infrastructure across the state.

## Public Engagement

Maine's climate change work all along has included broad representation and public engagement. The Equity Subcommittee (ESC) formed by the MCC is co-chaired by a representative from Maine's tribes, who also serves on the Maine Climate Council (MCC). Representatives from the Maine State Housing Authority, AARP, and Organized Labor also serve on the MCC. The ESC was formed to support ongoing planning and implementation of the state's climate strategies to ensure shared benefits across diverse populations in Maine. The ESC spent 18 months between 2021 and 2022 engaging with MCC working groups, state agencies, other experts, and members of the public to develop equity recommendations specific to the program and policies proposed in the state's climate action plan and proposed equity metrics[12]. The 2022 EV Charging Infrastructure Plan was referenced in the ESC work. Through the ECS's process, they identified general criteria for four types of prioritized communities in Maine: low-income, rural, disadvantaged, and frontline. The geographic location and needs of these prioritized communities have been thoughtfully considered in the development of this 2023 Plan. In addition, each working group formed has kept equity considerations in view. Since the 2022 EV Charging Infrastructure Plan was approved by FHWA last Se ptember, the Partnership has encouraged the public to review the Plan by sharing it at events and on organization websites.

The Transportation Working Group (TWG) of the MCC has been the center of transportation-related emissions reduction conversations and initiatives since the group was established in 2019. The TWG meetings are open to the public, and notes are posted online. Specific projects, including the Clean Transportation Roadmap, have had robust public outreach. The infusion of NEVI funding for charging infrastructure is a significant development that was subsequently discussed at one of the 2022 quarterly **Efficiency Maine's Low Income Advisory Group (LIAG) meetings and solicited feedback.** Over the past two years, targeted meetings also have been held with the TWG and with Drive Electric Maine, a stakeholder group consisting of transportation electrification advocates and members of the EV industry, Maine Municipal Association, as well as with the Maine State Transportation Innovation Council (STIC). In addition, the Partnership plans to contact stakeholders interested in charging infrastructure and to schedule meetings (targeted to this Plan) as needed. **At a stakeholder meeting last year, a Maine STIC member raised the issue that the draft Plan was not showing any installations on a corridor that connects two large tribal communities. The Plan was revised to include Level 3 charging using single-phase power charging infrastructure on the Route 1 Calais to Houlton corridor.**

MaineDOT set up the EV Charging Infrastructure Plan on its Virtual Public Involvement (VPI) website, which provides an easy way for people to review content and provide feedback. The VPI site accepted comments from June 30, 2023, through July 19, 2023. The groundwork for the 2023 EV Charging Infrastructure Plan VPI website was largely based on research and preparation for the VPI website that was shared in last year's Plan. The VPI was shared with the public, state and municipal organizations, planning organizations, labor organizations, private sector and industry representatives of the transportation/freight industries, public transportation agencies, federally recognized Tribes, and urban, rural, and underserved or disadvantaged communities. The VPI was also shared with existing stakeholder groups, including Efficiency Maine's list of EV stakeholders, the TWG, and the Governor's Office's Community Resilience Partnership members. The VPI had 109 attendees, 21 comments, and a favorability rating of 75%. Comments included the suggestion to incorporate NACS connectors, the importance of DCFCs in rural Maine, and the value of broad zones for planned DCFC locations. These, and other comments, were thoughtfully considered in the preparation of this 2023 NEVI Plan update.

Along with the VPI, Maine conducted a social media buy (pop-ups on Facebook, Instagram, etc.). Results from the EV charging station campaign are as follows:

**Money spent:** $1,000

**Duration:** July 5, 2023 – July 19, 2023

**Geotargeting:** State of Maine

**Impressions:** 386,325

**Reach:** 88,800

**Link Clicks:** 1,628

**Cost per click:** $0.61

**Demographics:** Men: 49% (800) | **Women:** 50% (809) **Click-Through Rate (CTR):** 0.94%

**Definitions:**

- **Impressions** = The number of times the content was displayed to any user.
- **Reach** = The number of unique users that saw the content.
- **Link Clicks** = Clicks to visit mainedot.gov/vpi
- **Click Through Rate (CTR)** = The percentage of users who see the ad and click on it.

**NOTE:** We always target all genders and people ages 18 and over.

Efficiency Maine, MaineDOT, and sister agencies will build on the robust public engagement process identified above to further coordinate contact with a wide range of stakeholders, matching closely with those listed in the NEVI Guidance. Communication with stakeholders and public outreach will continue as Maine submits an updated NEVI Plan each year during the NEVI funding period. Once approved, the updated NEVI Plans will be posted on MaineDOT's climate website along with contact information for individuals interested in providing feedback or questions. In the past, Efficiency Maine has coordinated with municipalities and the public to spread awareness and solicit interest for select eligible segments that are in particularly rural areas and likely to have fewer bidders. Efficiency Maine will continue to do this to better understand the needs of the communities in which these chargers will be sited.

## Community Engagement Outcomes Report

Since the Maine Plan for Electric Vehicle Infrastructure Deployment[13] was published in July 2022, Maine has hosted and participated in 20 public events that have engaged over 60,000 members of Maine's general public, municipal leaders, Tribal representatives, state agencies, utilities, interested electric vehicle (EV) charging infrastructure host sites, businesses, local housing organizations, chambers of commerce, vendors of EV charging equipment and services, EV dealerships, EV owners, Clean Cities Coalitions, and other stakeholders. Funding for these events came from multiple sources, none of which were NEVI formula funds. The below table includes the Community Engagement Outcomes Report requested in 23 CFR 680.112.

**Graphic 2:** *Table of Community Engagement Outcomes Report*

| Communities/Tribes Represented | Attendance (#) | Type of Event (webinar, listening session, etc.) | Date |
|---|---|---|---|
| Throttle Car Club EV Show | 50 | EV test drives | 8/14/2022 |
| Wells EV Show | 300+ | EV test drives | 9/11/2022 |
| Common Ground Country Fair | 60,000+ | EV presentation and booth | 7/24/2022 |
| National Drive Electric Week: Electrify Freeport | Approximately 250 | EV presentation and booth | 7/25/2022 |
| National Drive Electric Week: Electrify Portland | 200-300 | EV test drives | 10/1/2022 |
| Orono Energy Efficiency Fair | 40 | EV presentation and booth | 10/22/2022 |
| Moving Maine: Low-Income Offerings for Electric Vehicles | 17 | EV presentation (webinar) | 11/30/2022 |
| Camden Rotary Club | 20-30 | EV presentation | 1/17/2023 |
| Central Maine Power (CMP) | 3 | Check-ins (virtual) | ongoing |
| York Public Library | 26 | EV presentation (webinar) | 3/8/2023 |
| Green & Healthy Maine HOMES Energy Show | 1,000+ | EV presentation and booth | 4/1/2023 |
| Androscoggin Valley Council Of Governments (AVCOG) Municipal EV Development | 14 | EV presentation (webinar) | 4/11/2023 |
| Bangor EV Chargers Press Event | NA | EV announcement | 4/12/2023 |
| Maine Driver's License Examiners | 40 | EV presentation | 4/25/2023 |
| South Portland | 2 | South Portland's EV charging infrastructure plans | 5/5/2023 |
| Efficiency Maine Phase 4-2 RFP | 10-20 | EV charging presentation (webinar) | 5/9/2023 |
| Efficiency Maine Phase 5 RFP | 20-30 | EV charging presentation (webinar) | 5/10/2023 |
| Governor's Office for Policy Innovation and the Future (GOPIF) Communities Leading on Climate Conference | 200+ | EV presentation and booth | 5/11/2023 |
| ClimateWork Maine Summit | 200+ | EV presentation and booth | 5/19/2023 |

## Tribal Engagement

The Partnership recognizes the importance of engaging with Maine's federally recognized Tribal communities, including the Houlton Band of Maliseet Indians, the Mi'kmaq Nation, the Passamaquoddy Tribe, and the Penobscot Nation. In addition to providing the Tribal communities with access to EV chargers for their own use, EV chargers can encourage tourism and spending in these communities. The proximity of charging infrastructure to Tribal communities has been a factor in the state's EV charging infrastructure location decisions for those funded by the NEVI program and other state and federal funding sources. The Partnership is working with the MaineDOT Tribal Liaison, regional planning organizations, and local partners to ensure that the Plan is shared with the tribes and their feedback is received and considered in updating the Plan. Through the Tribal Liaison, MaineDOT shared the EV Charging Infrastructure Plan's VPI website with the Tribal communities to encourage them to review the Plan's content and provide feedback. In July, MaineDOT and FHWA staff toured rural and coastal Downeast Maine to understand opportunities and deltas with a focus on transit and transportation needs. NEVI was on the agenda. Additionally, in July, MaineDOT's Tribal Liaison also met with the Chief of the Passamaquoddy Indian Township and Tribal Clerk from Aroostook Band of Mi'kmaq and discussed various transportation topics, including the

[13] https://www.maine.gov/mdot/climate/docs/pevid-2022.pdf

proposed NEVI Plan. Due to timing constraints, the Partnership decided not to squeeze the Tribal engagement into a short two-month window and instead will conduct a planned engagement process over the next year to ensure a genuine and successful engagement process and understand how EV chargers could benefit the Tribal communities. As noted above, Tribal communities are part of and engaged with the ESC under the MCC.

### Utility Engagement

Efficiency Maine and MaineDOT have organized a reoccurring meeting with the utilities to enable an ongoing dialogue of problems and needs related to EV charging infrastructure. Efficiency Maine has been proactive about engaging with the utilities in conducting high-level grid capacity evaluations for proposed EV charging infrastructure sites. Efficiency Maine collaborated with the two largest utility providers (Central Maine Power and Versant Power) in Maine to provide EV charging site bidders an optional load form, which includes preliminary information for permanent electric service. Efficiency Maine and MaineDOT have been coordinating with Central Maine Power regarding a capacity load map that will be released later this summer.

### Site-Specific Public Engagement

Efficiency Maine hosts webinars and question-and-answer sessions on materials developed specifically for each request for proposal (RFP) and associated eligible corridors. Additionally, Efficiency Maine and MaineDOT posted a request for information in May soliciting feedback from the public on the state's EV charging Plan, especially related to the CFI grant application. Efficiency Maine has met with municipalities and communities interested in installing and hosting EV chargers.

## Plan Vision and Goals

Maine intends to make progress toward reducing emissions of carbon dioxide from vehicles traveling Maine roads. This is in line with the federal government's vision of a national EV charging network that will: accelerate equitable adoption of EVs, including for those who cannot reliably charge at home, and help put the US on a path to net-zero emissions by no later than 2050.

Maine's goals related to electrification are to:

- Strengthen the Maine economy by reducing Maine drivers' energy costs for transportation and by promoting tourism from neighboring provinces and states.
- Advance Maine's progress toward reducing emissions of carbon dioxide from vehicles traveling Maine roads.

Besides these economic benefits for all, Maine also sees health benefits from making a transition toward electric vehicles.

Expanding the reach of EV charging infrastructure has played a prominent role in Maine's overall climate change strategy since 2019 and before. The Maine Won't Wait research and report identified transportation as the biggest contributor (recently updated to 49%) to GHG and recommended "long-term and large-scale electrification of our transportation systems," supplemented by efforts to reduce Vehicle Miles Traveled (VMT). [14]

The MCC's ESC recognizes that ownership of high-efficiency vehicles has the potential to reduce emissions and reduce a household's spending on transportation, but the vehicles can be cost-prohibitive for Maine drivers with low or moderate incomes[15]. Additionally, rural communities and tenants of rental housing often lack access to charging infrastructure. The ESC developed goals to increase EVs and EV charging availability among low and moderate-income and rural drivers, renters, and multi-family residents, and these goals have been key in developing Maine's Plan for EV charging infrastructure expansion with both NEVI funds and additional funding sources.

[14] *Maine Won't Wait*

[15] *Recommendations of the Equity Subcommittee*

State efforts to encourage EV adoption through the establishment of an EV rebate program and comprehensive consumer engagement have already borne fruit, with EVs accounting for nearly 4% of all Light-Duty Sales in 2021. Maine also has taken steps to direct state EV incentives to more low- and moderate-income (LMI) vehicle purchasers. The TWG considered both EV adoption and expansion of the charging network. Group members preferred voluntary, rather than mandatory, conversion to EVs. They also support continuing EV rebates to Maine residents.

Maine has set the following objectives related to EV infrastructure (including NEVI and other funding sources):

1. Facilitate market transformation that will, consistent with the targets of the State climate action plan, increase the use of vehicles operating on electricity and displacement of higher-carbon fuels;
2. Expand the network of DC Fast chargers available to serve EV drivers who require expedited charging while away from their home or place of business;
3. Promote deployment of Level 2 chargers to serve overnight or extended duration charging;
4. Assure equitable access to EV charging across geographic areas, sectors of the economy, and household income levels;
5. Attract and complement funding from federal, state, corporate, philanthropic, or local initiatives.

Specifically, Maine has set the following targets for the fast charging (DCFC) network:

1. Serve EV drivers who require expedited charging while away from their home or place of business;
2. Enable EV travel from south to north and east to west across all significant routes and to all major destinations;
3. Deliver consumer satisfaction through capacity, reliability, availability, safety, and convenience;
4. Reduce the distance between chargers to 50 miles or less; and
5. Encourage sustainable charger operations through the appropriate use of competitive bidding, market-based solutions, public-private partnerships, and public funding.

Maine is a large state, mostly rural, with a higher percentage of state-owned highway miles than the national average. For example, Vermont has 2,628 State Highway Agency miles and 11,463 County and Town miles. Maine, with 8,340 State Highway Agency miles and 14,060 County and Town miles, is receiving roughly the same amount of NEVI formula funds as Vermont. Due to the massive geographical space that this Plan covers, Maine recognizes the need for efficient use of the funding available and the need to seek out additional funding. Maine's 2022 Plan had proposed a staged approach that would have allowed for a greater geographical spread for the NEVI funds; however, staging has since been discouraged in the National Electric Vehicle Infrastructure Standards and Requirements (23 CFR 680).

In March 2021, the Nature Conservancy conducted focus groups among rural populations in Maine, New Hampshire, and Vermont. These identified range anxiety as a key barrier to EV purchase, which is in line with the findings of the Clean Transportation Roadmap mentioned above. To be consistent with NEVI and Maine's goals for equitable deployment of EV charging infrastructure, this Plan places particular emphasis on rural areas, which often include disadvantaged communities, to increase confidence in the ability to travel to and from and charge in any part of the state. To that end, Maine wants to ensure that EV charging infrastructure is available on all important routes and at all major destinations. This Plan is focused on light-duty vehicles.

The locations of the proposed DCFC stations funded by NEVI formula funds are limited by the Minimum Standards and Requirements (50 mi apart, 1 mi from AFC); however, in siting these locations and scheduling the buildout, the Partnership has considered the needs of the community. The priorities for the NEVI formula funds are extending lines and filling gaps

[16] *NEVI Guidance*

with high-speed charging, serving drivers needing expedited charging while away from their home or place of business, and providing full coverage across the state, along the AFCs. Maine will spend the NEVI funds annually on gaps that have been identified in the AFC charging network, focusing on the most well-traveled roads and the roads with minimal existing charging infrastructure, as well as the potential to complete the buildout of specific AFC segments.

Using alternative funding sources, such as NEVI discretionary funds or state funds, Maine will be addressing other needs, including serving tenants, condos, others lacking off-street parking (DCFC near LMI residents, level 2 chargers near LMI residents, and workplaces), and those needing destination charging including day-trippers, overnight visitors and tourists (DCFC at high tracked areas and L2 at places for overnight stays).

As mentioned above, in the 2022 Plan, Maine had proposed a staged approach that FHWA approved. Since then, states have been discouraged from installing anything less than the 150 kW/port in the National Electric Vehicle Infrastructure Standards and Requirements (23 CFR 680), causing Maine to remove the phased approach and redistribute funds. The 2023 Plan works to build out the EV charging network to comply with 23 CFR 680. As stated in the last Plan, the staged approach was critical to Maine building out rural corridors. Without the ability to install lower power and fewer chargers, Maine will be considering ways to complete the buildout of the AFC corridors, including aggressive requests for discretionary funding, and may consider delisting corridors from the AFC if that option is made available. The Plan includes a requirement for any location where NEVI formula funding is used to be "future-proofed" by establishing a 1600-amp capacity at the charging site. That will give all AFC locations the electrical capacity needed to be completely built out in the future. If any funding remains after the AFC locations are built out, Maine plans to consider adding additional capacity in high-traveled areas and expanding to other priority corridors beyond the already designated AFCs.

As noted in the Introduction, Maine has kept equity at the forefront throughout the discussion and development of its Plans. MaineDOT recently submitted an application to the CFI grant program, requesting funding for DCFC in the top eight cities with MUDs (to address limited overnight charging in shared and rented housing, especially near affordable housing) and in rural communities (to extend the DCFC network to rural, less trafficked areas and complement overnight charging). The CFI application also included level 2 charging in LMI/affordable housing MUDs for overnight/extended charging, workplaces (especially those with an hourly workforce), and retail and rural service centers. Visit the Equity section of the Plan for more detail.

Contracts for EV charging infrastructure already installed by the Partnership have required that chargers are usable by the general public without the need for proprietary apps or memberships. Contracts also require robust data collection and reporting. These requirements will continue with contracts funded by NEVI formula funds. The NEVI working group has contacted the Maine Connectivity Authority (MCA), which was recently chartered and tasked with bringing broadband service to the whole state. Maine, in siting networked charging infrastructure in remote parts of the state, will explore synergies with MCA's work.

Data collection will be required in all RFPs issued for EV charging infrastructure funded through NEVI formula funds. Maine will follow the National Electric Vehicle Infrastructure Standards and Requirements (23 CFR 680) that were issued in March 2023. See the "Strategies for Charging Infrastructure Data Collection and Sharing" section for more detail.

Maine's proposed planning efforts (allowed with NEVI formula funds)[17] are as follows, in rough priority/chronological order:

1. Continue to study and model the financial viability of charging infrastructure, especially DCFC, in remote rural areas.
    - **Progress:** EMT assesses the as part of each funding opportunity; the 2040 Decarbonization Study, modeling to be completed at the end of 2023, will include transportation electrification pathways and scenarios, including different assumptions of charging infrastructure costs and adoption, to arrive at least-cost pathways to achieve 100% clean energy by 2040; forthcoming study with GOPIF on MHDV roadmap

[17] *NEVI Guidance*

2. Fund an energy office position or analysis to review challenges and solutions related to grid infrastructure constraints and rate design.
    - **Progress:** This position is expected to be filled in July 2023.
    - **Progress:** Only analysis was covered in the abovementioned 2040 Decarbonization Study. GEO participated in the most recent rate cases of the two largest investor-owned utilities (IOU) in the state, Central Maine Power and Versant Power (in Dockets 2022-00152 and 2022-00255, respectively) to advocate for rate designs that keep electricity rates affordable for everyone while incentivizing heating and transportation electrification. Rate Design conversations are ongoing and will add to the new electric technology rates adopted by CMP and Versant in September 2022, related to Docket 2021-00325, specific to advancing State policies of beneficial electrification. These rates include time of use (TOU), lower kWh tariffs, and coincident peak transmission offerings. [EMT includes demand charges incentives for the first five years as part of DCFC grants]
3. Electric grid (needed kW near charging locations, new grid capacity needed by Year XXXX, the potential for "smart-charging"/charge management, etc.). Efficiency Maine is piloting Residential Smart Charging and working with utilities to analyze system capacity and make-ready costs. The Governor's Energy Office is following issues related to grid capacity and rates. See the 2022 Infrastructure Deployments/Upgrades section for more detail on electric utility issues.
    - **Progress:** GEO participated in the most recent rate cases of the two largest IOUs in the state, Central Maine Power and Versant Power, to actively advocate for make-ready programs to expand equitable access to charging infrastructure, as well as Active and Automatic Load Management programs to reduce the amount of infrastructure investments that will be needed to accommodate load growth. GEO also actively participates in a new Integrated Grid Planning process (Docket 2022-00322) to advocate for proactively planning for a grid with substantial adoption of beneficial electrification through the assumptions used in forecasting to the criteria used in solutions evaluation. GEO also provides inputs to ISO-NE's annual Capacity, Energy, Loads, and Transmission (CELT) report, which forecasts annual energy demand across transportation (excluding HDV) by 2032 to be 1557GWh, with a summer peak demand of 250MW and winter peak demand of 386 MW.
4. Medium- and Heavy-Duty Vehicles (MHDV) – Implement a Clean Transportation Roadmap recommendation to develop a dedicated roadmap for MHDV.
    - **Progress:** A funding source for this roadmap has been identified, and the scope of work is in development.
5. Review recommendations from Transit Electrification Study and continue to plan for furthering electrification of the transit system.
    - **Progress:** The Transit Electrification reports are available on MaineDOT's website.[18]

Maine has identified a need to conduct pilot initiatives related to public charging for MHDV in the later years of the NEVI Funding Period.

**Outcome-oriented goal with quantified targets (for charging infrastructure for LDEV):**

- Fill remaining gaps on the interstate.

This Maine Plan will be updated by August 2024 (earlier if needed) and yearly thereafter during the NEVI Funding Period.

[18] *https://www1.maine.gov/mdot/climate/electrification/*

# Contracting

The Partnership has five years of experience drafting and marketing competitive solicitations and managing contracts for EV charging infrastructure, including the following light-duty EV charging activities from 2018 to 2023:

a. $3.15 M of VW funds, $2M of utility settlement funds (NECEC), and $240,000 in funds awarded by the Maine Public Utilities Commission
b. DC Fast Charging (DCFC/L3)
    i. 20 ports installed @ seven sites
    ii. 14 ports awarded @ seven sites, under construction
    iii. 12 ports awarded @ four sites, in development
    iv. +/- 22 ports @6 sites TBA (2023)
    v. +/- 28 ports @7 sites TBA (2023), using NEVI funds
c. Level 2 (L2)
    i. 188 ports at public places, workplaces, and MUDs throughout the state
    ii. 161 ports awarded in all 16 counties

The State of Maine already seeks to make maximal use of incentive funding from a variety of sources and has experience with a variety of solicitation types. Three rounds of DCFC grants have been awarded through a competitive bidding process with two additional ongoing rounds. The solicitations targeted priority corridor segments and priority towns, but bidders were expected to identify and propose specific locations. Efficiency Maine has and will continue to engage with municipalities and the public to spread awareness and solicit feedback in areas where the chargers will be cited in rural areas, expected to have fewer bidders. One solicitation bundled multiple locations together in a single bid, and the others requested separate bids for individual sites. Representatives from multiple state agencies participated in the bid review process. Efficiency Maine signed contracts with successful bidders.

So far, on projects in the higher Annual Average Daily Traffic (AADT) locations, financial incentives awarded through the contracts have covered up to 80% of capital costs. More recent contracts have also covered part of the documented utility demand charges: 100% in Year 1, decreasing by 20% each year and ending after Year 5.

In all its solicitation and contracting, Maine has sought to minimize complications for the bidders/applicants.

Existing contracts have effectively dealt with (see implementation section for more detail):

- Completing construction in a timely manner
- Maintaining uptime (by monitoring downtime and instituting a Service Level Agreement to withhold/deduct penalty funding when standards are not met). Maine will follow the guidance recently given to set 97% as the minimum uptime requirement.
- Maintenance issues like snow removal

The Maine NEVI Plan is focused on EV charging infrastructure, with an initial emphasis on DCFC for the interstate. RFPs will ask bidders to address location, nearby amenities, and other factors that are likely to have a bearing on the successful operation of the charging stations in terms of reliability and convenience.

Maine recognizes that charging stations in some remote locations may require longer-term operating support; this can be addressed through contract terms. Recent solicitations for addressing charger needs in more remote rural areas have included ongoing incentives related to demand charges (e.g., covering 100% of utility demand charges in Year 1, decreasing by 20% each year, and ending after five years). During this period of rising electricity prices in Maine and New England, there is a heightened concern across all sectors of Maine's economy about adding to electricity rates. In the long term, each station will need to be financially viable. In the near future, it will be important to use some of the NEVI formula funding to support operating costs (including demand charges) for stations that face higher financial challenges.

Competitive solicitations will be designed to make efficient use of public funding and to attract private investment where possible. These strategies may include:

- In the highest traffic areas:
    - Offering 50-80% capital incentive with the remaining amount to come from private funds
    - Accepting bids from as wide a range of participants as possible, giving no preference towards any one type of business or ownership model
    - Not requiring that participants bid on multiple sites
- In medium and low-traffic areas:
    - Bundling low-traffic sites together with higher-traffic sites to afford bidders greater assurance of financial viability
    - Offering 80% capital incentive with 20% to come from private funds
    - Offering partial operating support, such as a declining incentive to defray a portion of the demand charges over a five-year term
- In the lowest traffic areas:
    - Offering 80-100% capital incentive and partial or full operating support during the contract term, with matching funds to come from state or other funding sources
    - In the most extreme cases, an alternative ownership strategy may be used in which Efficiency Maine or another public entity would own the equipment during an initial period until the station receives enough use to be financially viable. Efficiency Maine is considering this strategy at certain remote sites in northern Maine (not funded by NEVI). The Contracting section in the NEVI Guidance document[19] addresses the importance of contractors' engaging with communities where charging infrastructure will be installed. Efficiency Maine, so far, has met this important consideration by ongoing, robust engagement with stakeholders such as its Low-Income Advisory Group, Drive Electric Maine, regional Councils of Governments and regional development agencies, and through discussions with community leaders and local stakeholders prior to the issuing of solicitations. Maine has found this to be a workable and effective solution, and it builds on the relationships that The Partnership already has with local communities.

## Status of Contracting Process

The Partnership has one open RFP for NEVI-funded EV charging infrastructure projects. Bids were due on June 22, 2023. The anticipated award date is July 27, 2023.

## Awarded Contracts

The Partnership is using a competitive procurement process for its open RFP for NEVI-funded EV charging infrastructure projects. The anticipated award date is July 27, 2023. The contract mechanism will be design-build.

[19] *NEVI Guidance*

### Scoring Methodologies Utilized

The review team will use a scoring methodology that includes four categories: 1) cost to the program (30 points), 2) quality of the proposed site, equipment, and operations (30 points), 3) qualifications, capacity, and readiness (30 points), and 4) overall quality and responsiveness (10 points). DACs were considered in defining eligible segments. See the "Equity Considerations" section for more information.

### Plan for Compliance with Federal Requirements

The Partnership requires compliance with federal requirements for NEVI-funded projects, including Buy America and Davis-Bacon Federal Wage Requirements. The Partnership will not reimburse contractors until they have provided sufficient documentation. MaineDOT and Efficiency Maine are using Design Build procurement to deliver the projects as allowed by Title 23 and FHWA.

## Civil Rights

MaineDOT and Efficiency Maine will continuously work to ensure compliance with state and federal civil rights laws, including Title VI Civil Rights and accompanying USDOT regulations, Americans with Disabilities Act (ADA), and Section 504 of the Rehabilitation Act, as requested under 23 CFR 680. This section has been updated since the Plan submitted in 2022 to reflect compliance with 23 CFR 680.

"In accordance with Title VI of the Civil Rights Act of 1964 and other authorities, MaineDOT is committed to ensuring that the fundamental principles of equal opportunity are upheld in all decisions involving our employees and contractors/consultants and to ensuring that the public at large is afforded access to our programs and services. To that end, no person shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any MaineDOT program or activity on the grounds of race, color, or national origin. MaineDOT will work with staff, sub-recipients, contractors, and service beneficiaries to promote awareness for the provisions of Title VI and the responsibilities associated with that Act." [20]

The Partnership's projects will comply with the ADA guidelines, as do all state infrastructure projects. The Partnership ensures all charging stations and parking are accessible to individuals with disabilities by requiring that at least one parking space fully complies with the U.S. Access Board's Design Recommendations for Accessible Electric Vehicle Charging Stations.[21] MaineDOT has an extensive website outlining its plans and actions, which includes the 2019 Americans with Disabilities Act (ADA) Title II Transition Plan, a comprehensive written commitment to ADA deliverables.[22] MaineDOT also has an ADA Compliance Policy for Construction and Maintenance, which states, "Newly constructed, reconstructed, or rehabilitated pedestrian facilities will fully meet current ADA accessibility standards. MaineDOT will maintain its design guides to ensure all elements of current ADA compliance are incorporated into roadway improvements as required by this policy[23] . MaineDOT is also guided by the U.S. Access Board Technical Guidance for Parking Spaces.[24]

In coordination with a recently enacted bill, the Commissioner of MaineDOT will convene a working group to study Accessible Electric Vehicle Charging Stations, which will include MaineDOT's in-house expert on ADA accessibility and compliance. The working group will develop a document that simplifies and standardizes the US ADA Board's Design Recommendations for Accessible Electric Vehicle Charging Stations for use by contractors and other parties interested in the design and installation of EV charging stations and to develop recommended standards and how those standards may be incorporated into local code standards. This includes all EV charging, regardless of funding source.

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[20] *https://www.maine.gov/mdot/civilrights/title-vi/*

[21] *https://www.access-board.gov/tad/ev/*

[22] *https://www.maine.gov/mdot/civilrights/ada/docs/2019/MaineDOT-Final-ADA-TP-Plan-Sept2019.pdf*

[23] *https://www.maine.gov/mdot/civilrights/docs/ada/ADACompliancePolicy.pdf*

[24] *https://www.access-board.gov/ada/guides/chapter-5-parking/*

The Partnership will execute meaningful public engagement in plan development and during specific site selection and development processes, as well as a fair site selection and evaluation process on behalf of the applicants. The Partnership utilized existing relationships with disadvantaged communities and identified additional communities to connect with during the VPI process in July 2023. The Partnership will continue to engage with this group annually, at a minimum. Select engagement activities will be conducted over the next year to ensure a robust 2-way dialogue. The Partnership tracks the distribution of funds across geographic locations and includes the use of the DAC tools recommended by FHWA to ensure that more than 40% of the funds will go towards EV charging infrastructure in disadvantaged communities. With EV charging infrastructure expansion in the early stages, we have the unique and valuable opportunity to ensure equitable access to benefit from this equipment and avoid disparate impacts.

# Existing and Future Conditions Analysis

## Rural Nature

Maine, when it receives NEVI formula funding, can build on its experience already gained in soliciting and contracting for EV charging infrastructure. In addition, Maine has been learning by doing in the realm of encouraging EV adoption and has already taken specific steps to encourage LMI EV adoption (more on this in the Equity Considerations section, p. 36.) But Maine also faces significant challenges with its large area, small population, and below-national-average per capita income. While Maine's climate is warming, its extremely low temperatures present additional challenges for EVs in terms of both shortened range and longer charging times.

Maine covers 35,334 square miles. The terrain varies from the rocky coast to inland plains with plentiful lakes and rivers to rugged mountains. Maine is considered the most rural state in the nation[25] ; according to 3 definitions based on census urban areas considered by the US Department of Agriculture[26], Maine is considered overwhelmingly rural by each of the three definitions. Low population densities in rural areas can present significant challenges. The Transportation Working Group included a representative from the Northern Maine Development Commission.

Compared to other low-population states, Maine has more miles of public roads, more miles of state-responsibility roads, and a higher ratio of state miles to public miles.

**Graphic 3:** *from "Public Road Length - 2020, Miles by Ownership"27, Table HM-10, 10-26-2021. This shows State-Owned Miles as a percentage of overall miles.*

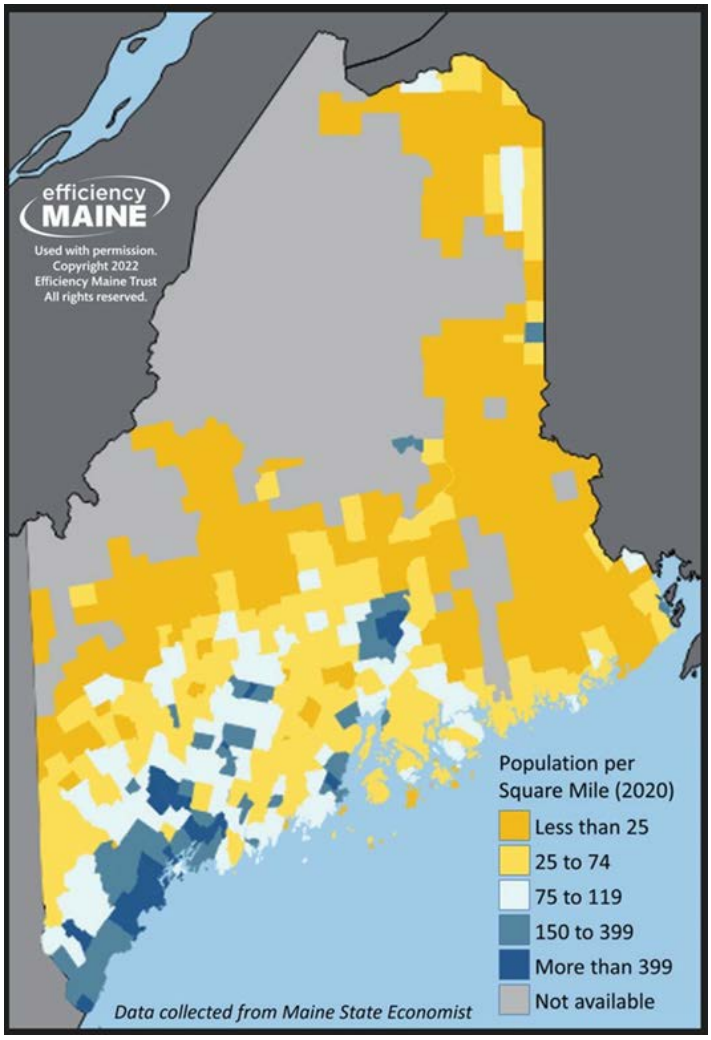
| State | State Highway Agency | County | Town, Township, Municipal (1) | Other Jurisdictions (2) | Federal Agency (3) | State as % of (State+County+Town) |
|---|---|---|---|---|---|---|
| Maine | 8,340 | 417 | 13,643 | 289 | 162 | 37% |
| New Hampshire | 3,897 | - | 12,038 | 107 | 151 | 24% |
| Vermont | 2,628 | - | 11,463 | - | 157 | 19% |

[25] https://www.maine.gov/dhhs/mecdc/public-health-systems/rhpc/rural-health.shtml

[26] https://www.ers.usda.gov/webdocs/DataFiles/53180/25574_ME.pdf?v=0

[27] *From "Public Road Length – 2020, Miles by Ownership", Table HM-10, 10-26-2021.*

**Graphic 4:** *This shows the small percentage of municipalities where the 2020 Population per Square Mile is greater than 150.*




## Climate

The average mean temperature in Maine is currently approximately 42 degrees F; the mean temperature has increased by 3.2 degrees F since 1895. Statewide, total annual precipitation in Maine is approximately 45 inches, with an increase of about 6.1 inches since 1895 [28]. Maine expects a continued increase in temperature and precipitation in future years. *Maine Won't Wait*[29] includes detailed analysis related to sea level rise, temperature rise, intensity of storms, and other climate-change phenomena that will affect different parts of the state. Maine is developing responses to these varied threats. For the five-year period of NEVI Formula funding and the coming few decades, however, cold temperatures will remain a top challenge in relation to EV adoption and the successful operation of EVSE. See the Known Risks and Challenges section below for more detail on this.

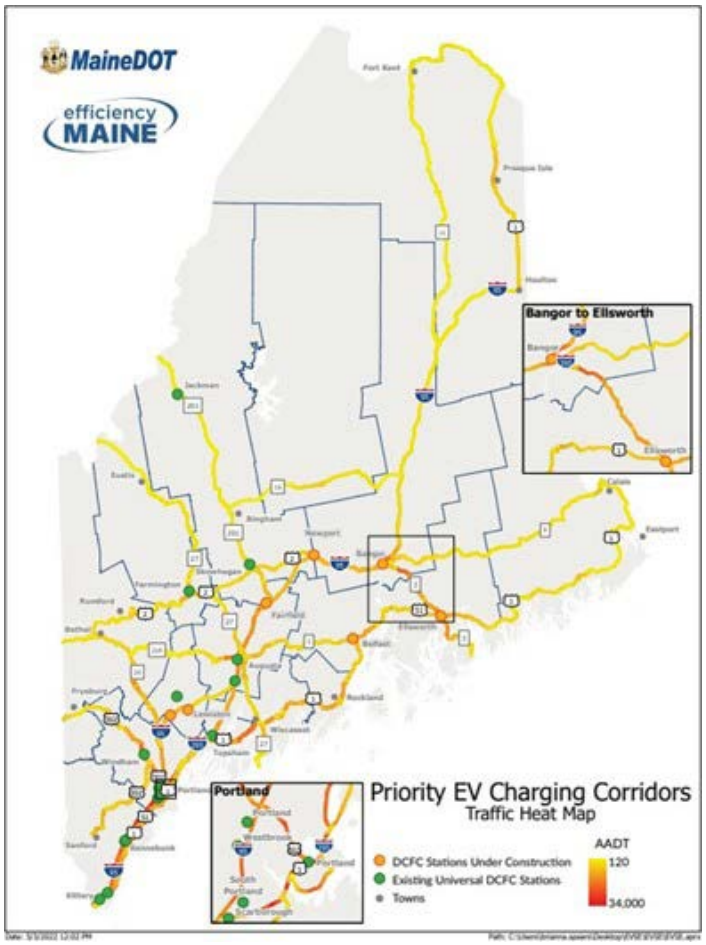
## Industry/Market Conditions

Traffic in Maine is concentrated in southern and coastal regions, as shown on the following AADT heat map. It should be noted that a significant share of VMT in Maine is from vehicles registered in other states. Acadia National Park has 4 million visitors per year; Maine is an attractive tourist destination less than a 12-hour drive from almost all of the Northeast. Maine also sees many tourists from the Canadian provinces of Quebec and New Brunswick, where there is significant EV adoption.

[28] https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/GOPIF_STS_REPORT_092320.pdf

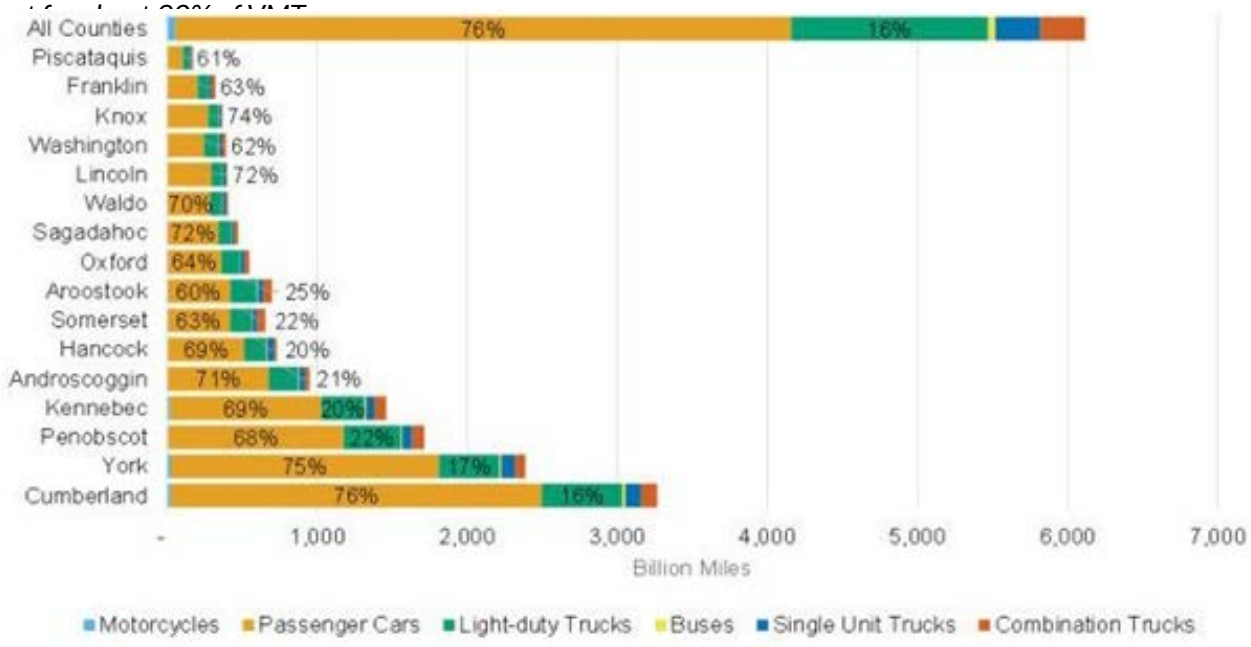
[29] *Maine Won't Wait*

**Graphic 5:** *Annual Average Daily Traffic (vehicles per day).*




Maine also has compiled data on VMT by County and Vehicle type. The low-traffic regions will be a challenge in terms of making charging infrastructure sustainable by User Fees alone.

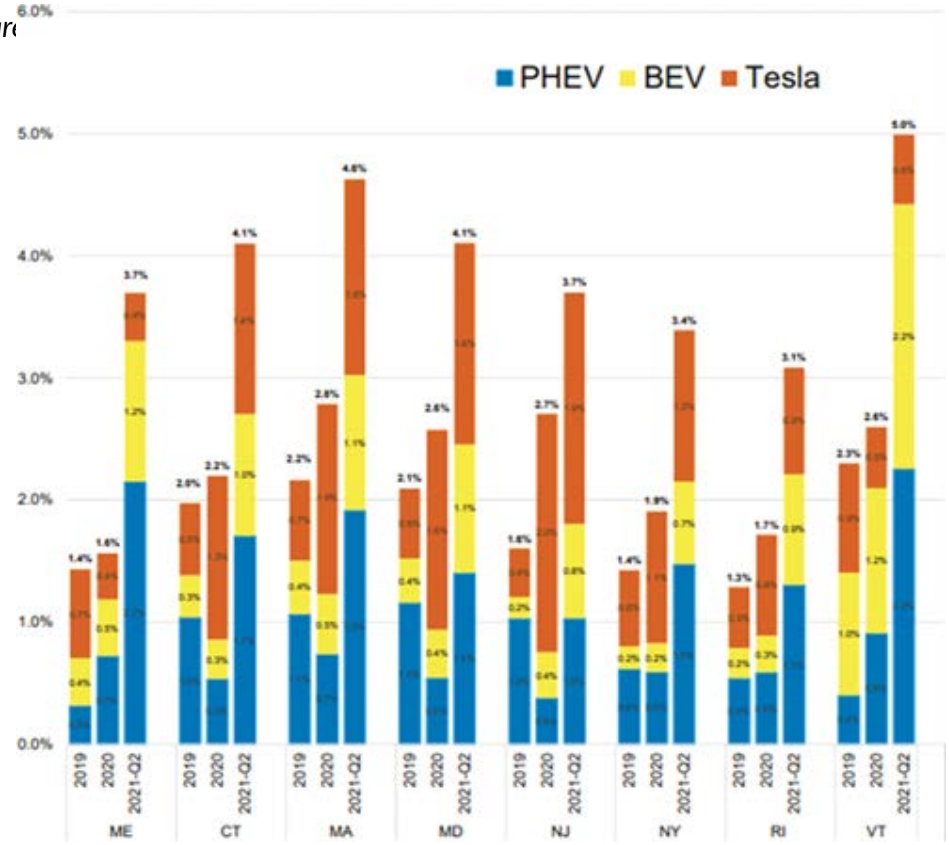
**Graphic 6:** *Vehicle Miles Traveled (VMT) by County and Vehicle Category. Note that in most counties Passenger Cars and Light Trucks acc*




The sale of EVs in Maine (as a percentage of all light-duty sales) have grown steadily since 2019. The Clean Transportation

Roadmap showed that Maine's sales were 3.7%, which is in-line with the percentages of other Northeast states.

**Graphic 7:** *EV Sales Shar*




The Clean Transportation Roadmap includes an extensive discussion of EV adoption, including EV incentives offered through Efficiency Maine. In addition, the Roadmap also examines several reference cases for Light-Duty EV Deployment in Maine and New Registrations. The Roadmap also modeled a new charging infrastructure (kW per port, # of ports, by Year) that would be needed to support the different EV Adoption reference cases. Maine made use of these projections in developing this Maine NEVI Plan. [30]

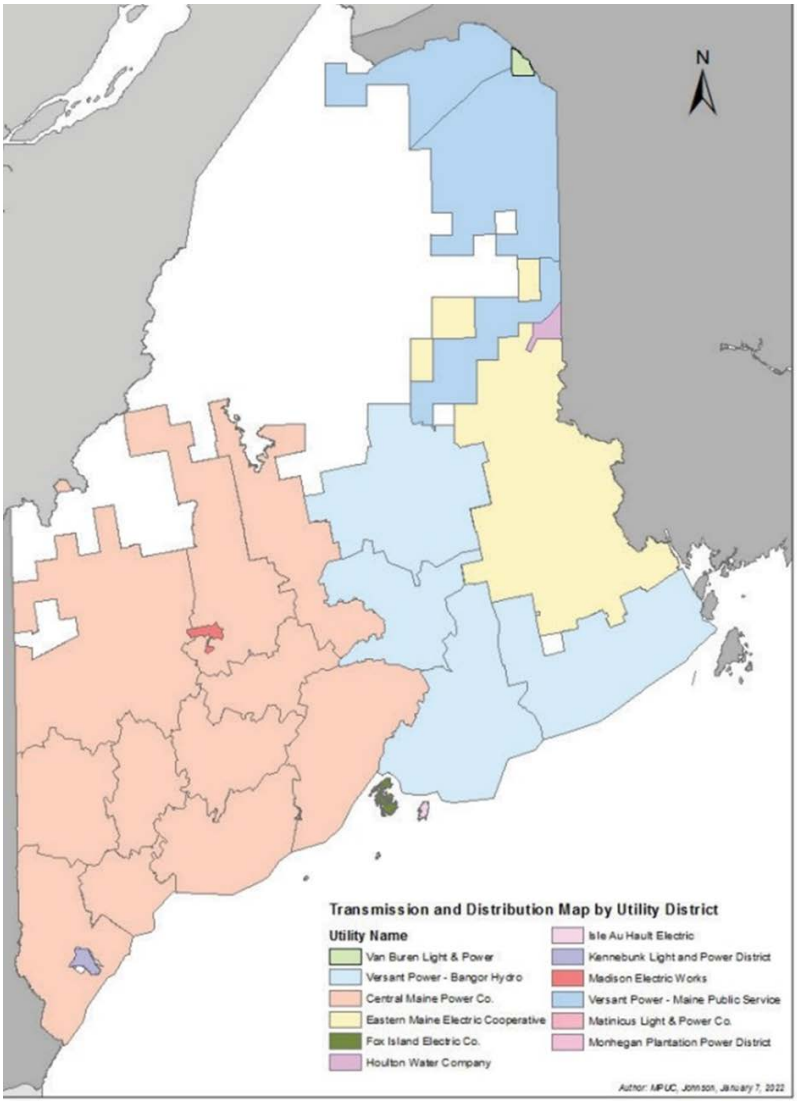
Maine has been offering incentives for EV purchases since 2019, with a total of $6,853,000 applied to 3,942 Light Duty EVs, through June 30, 2023. Efficiency Maine continues to offer state EV incentives and has taken steps to increase LMI participation (see Equity Considerations Section for more detail). Maine is committed to supporting ongoing, equitable EV adoption.

Range anxiety is a significant barrier to EV adoption. Maine expects the expansion of the EV charging network, which will be made possible by NEVI funding, to help to lessen this barrier. Maine is using other funding to augment very rural locations in Maine to help reach across the state.

Maine has two major electric utilities, Versant Power and Central Maine Power, and a handful of smaller cooperative or municipal utilities. Most of the existing and proposed DCFC on AFC and other priority corridors are within the territory of the two major utilities, with a few exceptions. Efficiency Maine works closely with the electric utilities through its work administering energy efficiency programs and planning of transmission and distribution systems. Efficiency Maine is meeting with the major utilities to gather feedback on this NEVI Plan. Efficiency Maine will continue to coordinate with the utilities when selecting DCFC sites to avoid, where possible, selecting locations that would trigger major grid upgrades and to develop a process and timeline by which bidders can expect to obtain interconnection cost estimates when submitting proposals for NEVI RFPs. The graphic below shows the utility territories.

[30] *Roadmap*

**Graphic 8:** *Transmission and Distribution Map by Utility District*




In the near term, there is a significant risk that DCFC will not be economically viable, particularly in rural areas that currently represent the largest gaps in Maine's EV charging network. Initial analysis suggests that some rural stations may not be profitable within ten years due to a lack of EV usage at these rural sites. This may make it challenging to attract private investment to chargers on Maine's rural corridors, many of which are in areas classified as DACs. Maine can mitigate this risk by providing the necessary amount of capital subsidy and by providing operational support where needed.

Longer-term, if EV adoption rates take off as projected, there will be a need for new grid capacity. This need will hit at different times in different locations because each part of the electrical grid has unique capacity constraints.

The Clean Transportation Roadmap already recognizes electric grid issues as a challenge. In the short term, demand charges increase the operating costs for DCFC. In the longer term, as EV adoption rates increase, particularly when combined with other electrification, there will be a need for new grid capacity in certain areas.

While the amount of energy required to charge an EV is generally less than 50 kWh, delivering that energy at remote locations and at high voltages can drive up operating costs when additional grid capacity is needed. Current charging infrastructure in Maine is concentrated in higher population areas where electric service is often more readily available. Also, certain types of host sites (e.g., grocery stores) can use existing 480 V, 3-phase power. As noted above, Efficiency Maine has offered a declining incentive to defray a sizable portion of the demand charges over a five-year period to attract bidders in less heavily trafficked parts of the state. EMT also includes demand charges incentives for the first five years as part of DCFC grants, including NEVI funding.

Regulatory activities at the Maine Public Utilities Commission (MPUC) have the potential to impact the economics of EV adoption for drivers and charging hosts. As required by legislation enacted in 2021, the MPUC opened an inquiry and a subsequent investigation into electric rate designs to facilitate beneficial electrification, including residential and non-residential charging and public DCFC stations (MPUC Dockets 2021-00198 and 2021-00325). Rate designs were finalized in September 2022 and include TOU, lower kWh tariffs, and coincident peak transmission offerings. These rates are understood to reduce the cost of operating DCFC charging significantly. Stakeholders, including the GEO, Efficiency Maine, and other parties, are continuing rate design conversations as an outcome of the stipulation in the final settlement of the CMP Rate Case, as well.

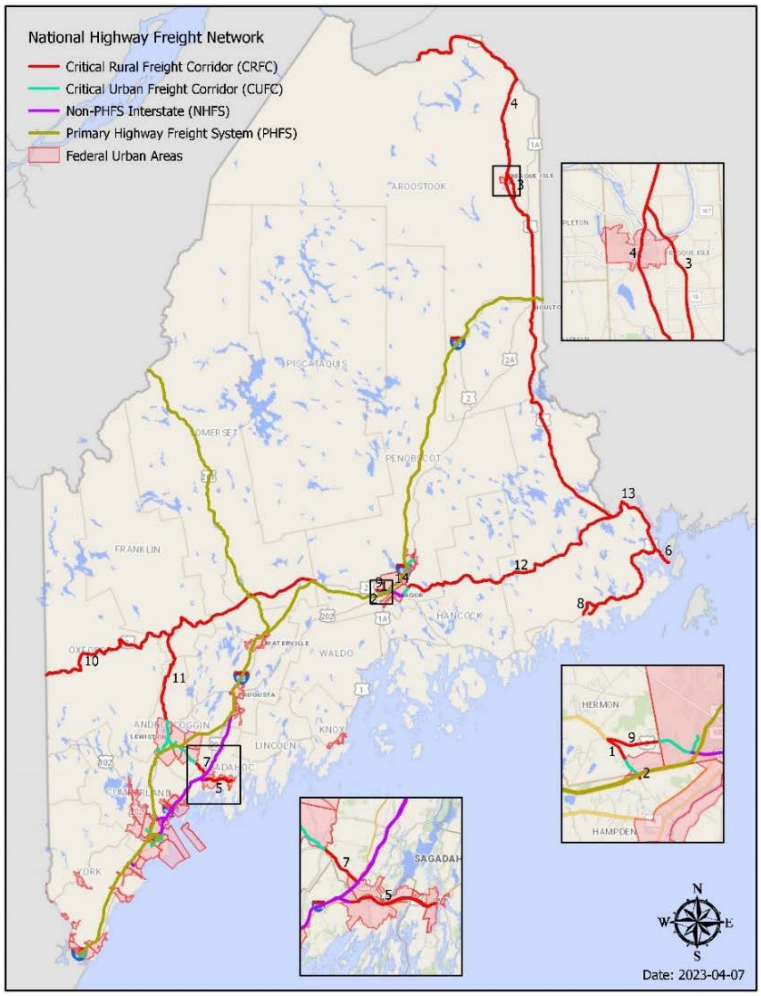
MaineDOT and Efficiency Maine are aware that electric grid issues will need to be addressed as EV adoption and use of EVSE grows. For work contemplated with NEVI formula funds, especially in the early years, Maine will deal with specific utility infrastructure issues through the new integrated grid planning process at the Maine PUC as they arise on a case-by-case basis. Maine is aware that NEVI funds may be used for on-site renewable generation or storage and may consider this approach in targeted situations if the need arises. For more discussion of electric grid capacity, please see "Total transportation electrification load from light-duty vehicles, by scenario Outlook: management of vehicle miles traveled" discussion in the Roadmap. As noted in the Plan Vision and Goals section, Maine will review the results of these studies to fine-tune the deployment of charging infrastructure during the later years of the NEVI formula funding period.

Cold weather reduces EV range and increases charging times (for both DCFC and L2). Maine's cold climate and low, widely dispersed population present significant challenges to EV adoption and to the sustainable operation of EV charging equipment. These challenges will be acute in northern and far-inland (esp. mountainous) parts of the state; these areas tend to be rural, with lower-than-average income, as well as low AADT. Maine is fully committed to a 50-mile spacing of charging infrastructure; this will significantly mitigate the cold weather effects on the range and charging time.

While cold weather presents significant challenges, financial viability (in rural parts of the state) remains the biggest risk. In remote locations, there is the risk that if DCFC facilities are oversized for the market demand, then operating revenue will not be able to cover costs. This could result in private vendors and/or property owners becoming disillusioned with the economic burden of owning/hosting this critical infrastructure. Facilities may fall into disrepair or be removed entirely, creating a negative case study on the transition to EVs.

Although this Plan focuses on light-duty vehicle charging, the state is planning to assist in the conversion of medium and heavy-duty vehicles to electric or other alternative fuels. Maine's most recent RFP requires sites on I-95 to include at least one pull-through lane for charging medium- and heavy-duty vehicles and vehicles towing. At this time, MaineDOT has worked with a consultant to prepare best practices for transit agencies to transition to electric and has finalized electric transition plans for eight transit agencies, and is currently working with additional agencies. These agency-specific plans consider the vehicle storage, route types, bus replacement schedule, utilities, and many other factors unique to each of the agencies. Additionally, later this summer, the Governor's Office of Policy Innovation & the Future will be conducting a Medium and Heavy-Duty Clean Transportation Roadmap, like the roadmap that was prepared in 2021 for light-duty vehicles. This roadmap will help the state understand the freight EV charging patterns and needs. Maine Won't Wait recommends a modest goal of a 4% reduction in MHDV VMT by 2030. Maine's primary freight corridors are identified on the following page.

**Graphic 9:** *Maine's designated freight corridors with FHWA as of July 2023 (provided by MaineDOT).*



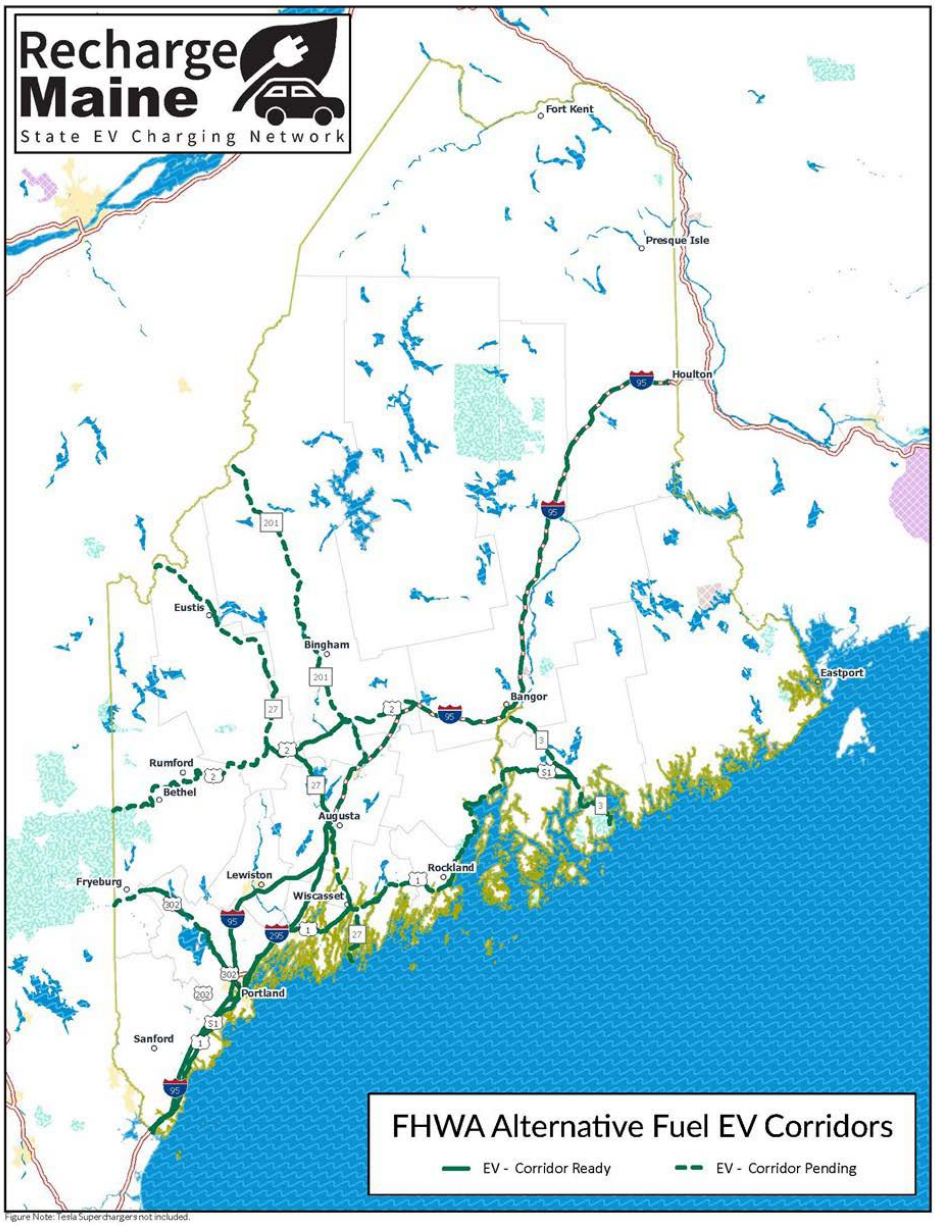

## Alternative Fuel Corridor (AFC) Designations

Maine has nine designated Alternative Fuel Corridors (AFC) and did not apply for any new corridors in the 2023 nominations.

**Graphic 10:** *Table of Maine Alternative Fuel Corridors as of 6/30/2023*

| Corridor Name | EV Corridor-Pending Segment | EV Corridor-Ready Segment |
|---|---|---|
| 27 | Boothbay-Gardiner, Farmington-Canadian Border | Gardiner-Farmington |
| 1 | Brunswick-Ellsworth | Kittery-Brunswick |
| 1A/3 | Bangor-Bar Harbor | N/A |
| 2 | Newport-Skowhegan, Farmington-NH Border | Skowhegan-Farmington |
| 201 | Fairfield-Canada Border | N/A |
| 302 | Portland-NH Border | N/A |
| I-95 | Augusta-Bangor* | Kittery-Augusta |
| I-295 | N/A | South Portland-W. Gardiner |
| I-95 | Bangor-Houlton | N/A |

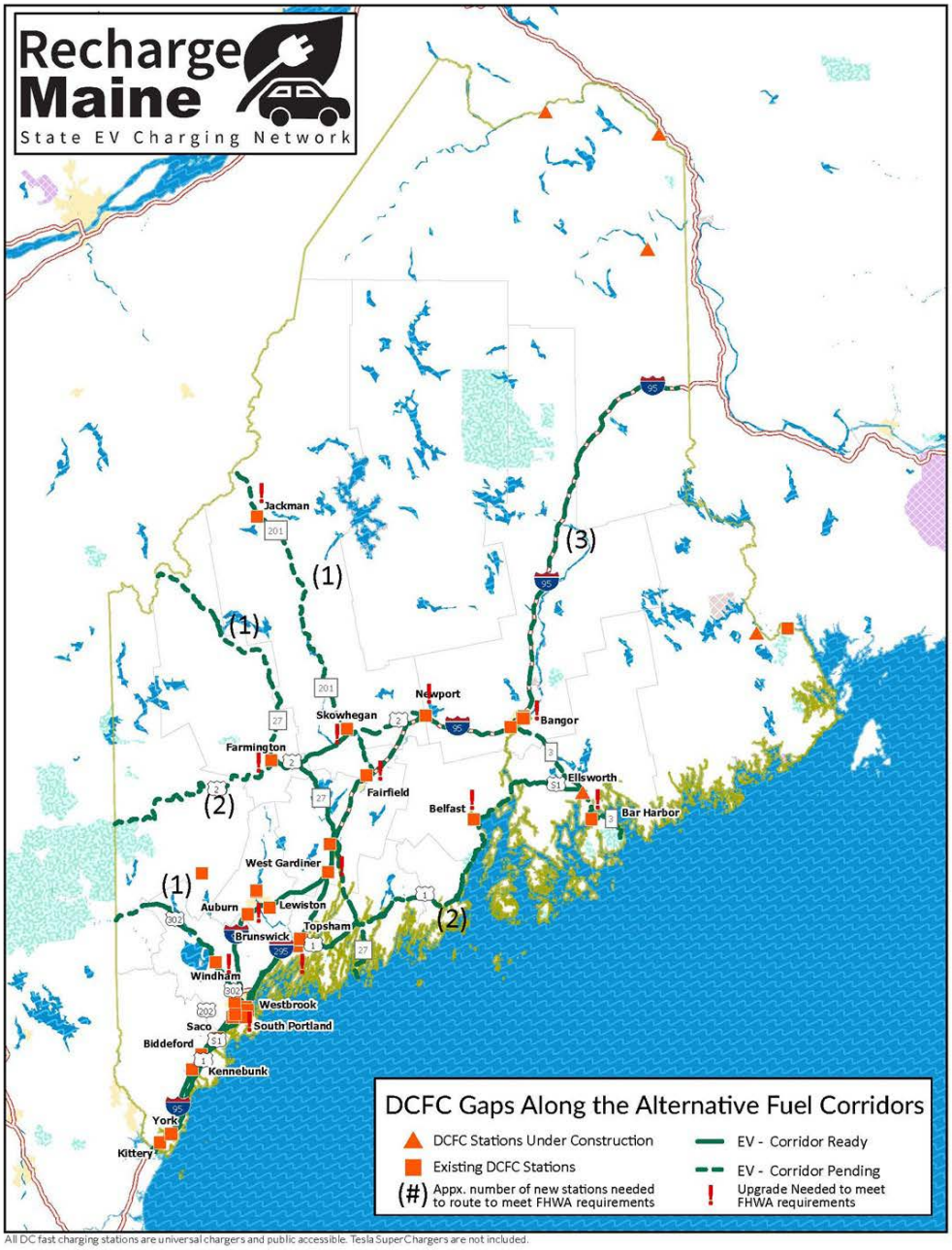
**Graphic 11:** *Maine's Designated Alternative Fuel Corridors.*




[25] *Raodmap*

The following map shows that most of the existing and funded DCFC stations would require upgrades to meet the NEVI standards for being fully built out. All of the maps created for this Plan show all publicly accessible and universal DCFCs. Tesla Superchargers are not included.

**Graphic 12:** *Map showing gaps in DCFC infrastructure and the number of new and upgraded locations needed to meet FHWA requirements.*




10 – Estimated new sites needed to complete existing Pending Corridors

13 – Estimated existing sites on Pending and Ready corridors that must be upgraded to meet FHWA requirements or, alternatively, a new site installed nearby.

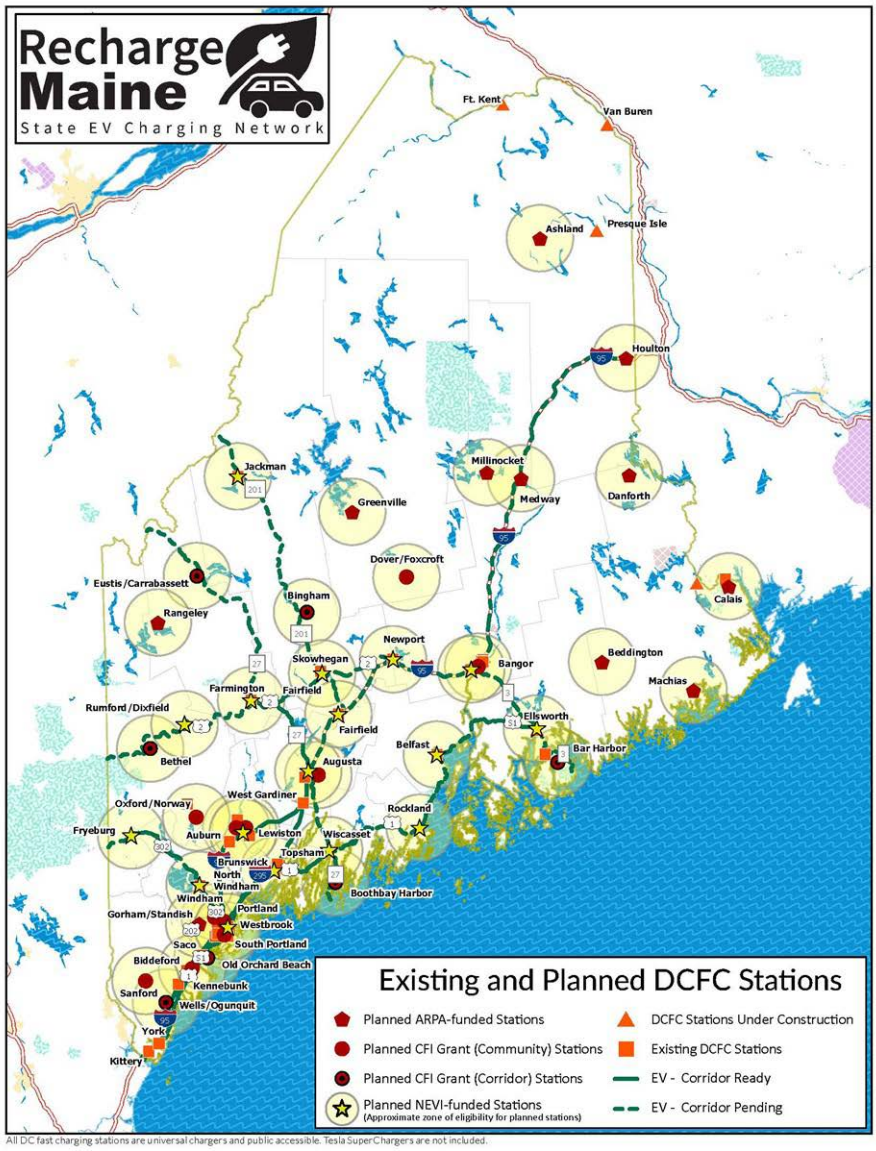
20 – Total new sites and upgrades needed

[26] *Raodmap*

Each of the sites will be built with 4 x 150kW ports and a total power capability per site of no less than 600kW as well as the other requirements to meet the National Electric Vehicle Infrastructure Standards (23 CFR 680). If this is not feasible due to a lack of power availability or other issues, a request for exemption will be submitted to FHWA.

The following map shows the overall Recharge Maine initiative, which includes funding from NEVI, ARPA, NECEC, and potential discretionary CFI funds.

**Graphic 13:** *Map of Recharge Maine EV charging infrastructure expansion strategy for existing and planned chargers with all available funding sources, including NEVI.*




[27] *NEVI Guidance*

## Existing Charging Stations

Maine has 31 existing independent DCFC charging station locations across the state located less than 1 mile from segments of the designated AFCs, including US Route 1, I-295, Route 3, US Route 2, I-95, Route 27, US Route 201, and US Route 302. The number of charging ports at each of these sites ranges from one to four, with a total of 63 ports between the 31 sites. Note that several of the EVgo stations are currently temporarily out of service.

Table of Existing DCFC charging infrastructure locations along the designated AFCs, as of 7/10/2023. Maine expects to update the Unique ID for the charging stations to be consistent with the EV-Charging Analytics and Reporting Tool.

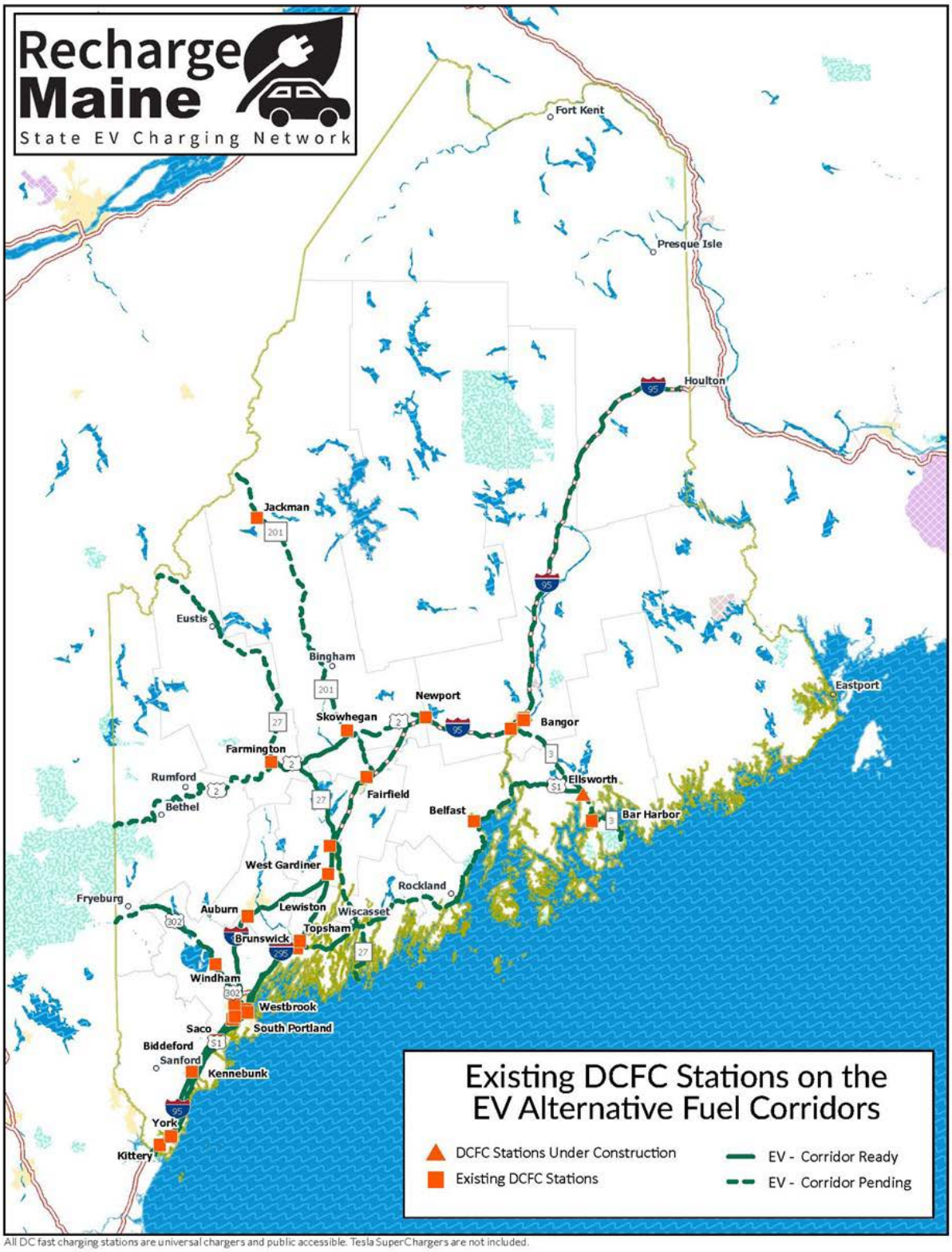
**Graphic 14:** *Existing DCFC charges within 1 mile of the designated AFC corridor.*

| State EV Charging Location Unique IaD* | Charger Level (DCFC, L2) | Route | Location (street address) | Number of Charging Ports | EV Network (if known) | Meets all relevant requirements in 23 CFR 680? | Intent to count towards Fully Built Out determination |
|---|---|---|---|---|---|---|---|
| DCFC-39 | DCFC | Route 1 | Pratt 143 River RoadCalais, ME 04619 | 1 | EV Connect | No | No |
| DCFC-38 | DCFC | Route 3 | Steamboat Landing Gas Station 1500 ME-102 Bar Harbor, ME 40609 | 1 | None | No | No |
| DCFC-37 | DCFC | Route 1 | Revision Energy59 Lincolnville Ave Belfast, ME 04915 | 2 | ChargePoint | No | TBD** |
| DCFC-36 | DCFC | Route 2 / I-95 | Irving Oil 301 Odlin Rd Bangor, ME 04401 | 2 | ChargePoint | No | TBD** |
| DCFC-35 | DCFC | I-95 | Darling's Nissan 114 Sylvan Rd Bangor, ME 04401 | 1 | None | No | No |
| DCFC-34 | DCFC | I-95 | Quirk Auto 327 Hogan Rd Bangor, ME 04401 | 1 | ChargePoint | No | No |
| DCFC-33 | DCFC | I-95 | Quirk Auto Subaru 295 Hogan Rd Bangor, ME 04401 | 1 | ChargePoint | No | No |
| DCFC-32 | DCFC | I-95 | Quirk Auto Hyundai 162 Haskell Rd Bangor, ME 04401 | 2 | ChargePoint | No | No |
| DCFC-31 | DCFC | I-95 | Quirk Auto Hyundai 162 Haskell Rd Bangor, ME 04401 | 2 | ChargePoint | No | TBD** |
| DCFC-30 | DCFC | Route 201 / Route 2 | 398 Madison Ave Skowhegan, ME 04976 | 2 | ChargePoint | No | TBD** |
| DCFC-29 | DCFC | Route 2 / Route 27 | 134 Hannaford Drive Farmington, ME 04938 | 2 | ChargePoint | No | TBD** |
| DCFC-27 | DCFC | Route 201 | 407 Main St Jackman, ME 04945 | 2 | ChargePoint | No | TBD** |
| DCFC-26 | DCFC | I-95 | Irving Oil 18 Moosehead Trail Newport, ME 04953 | 2 | ChargePoint | No | TBD** |
| DCFC-25 | DCFC | I-95 | Darlings Hyundai 439 Western Ave Augusta, ME 40330 | 1 | ChargePoint | No | No |
| DCFC-24 | DCFC | I-95 / I-295 | 102 Maine Turnpike West Gardiner, ME 04345 | 4 | ChargePoint | No | No |
| DCFC-22 | DCFC | I-295 | Hannaford Supermarket 49 Topsham Fair Mall Rd Topsham, ME 04086 | 1 | EvGo | No | No |
| DCFC-21 | DCFC | Route 1 | Goodwin Chevrolet 195 Pleasant St Brunswick, ME 04011 | 1 | None | No | No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DCFC-20 | DCFC | I-95 | Irving Oil1813<br>Washington St S<br>Auburn, ME 04210 | 2 | ChargePoint | No | TBD** |
| DCFC-15 | DCFC | Route 302 | 797 Roosevelt<br>TrailWindham, ME 04062 | 2 | ChargePoint | No | TBD** |
| DCFC-14 | DCFC | Route 1 / I-295 | High St Lot<br>98 High Street<br>Portland, ME 04101 | 3 | EVgo | No | TBD** |
| DCFC-13 | DCFC | Route 1 / I-295 | Hannaford Supermarket<br>295 Forest Ave<br>Portland, ME 04101 | 2 | EVgo | No | TBD** |
| DCFC-12 | DCFC | I-95 | Market Basket<br>90 Rock Row<br>Westbrook, ME 04092 | 4 | EVgo | No | TBD** |
| DCFC-11 | DCFC | I-95 | Rowe Hyundai<br>91 Main St Westbrook,<br>ME 04092 | 2 | ChargePoint | No | No |
| DCFC-10 | DCFC | I-95 | Berlin City Nissan 227<br>Maine Mall Rd<br>South Portland, ME 04106 | 1 | None | No | No |
| DCFC-9 | DCFC | I-95, Route 1 | Hannaford Supermarket<br>415 Philbrook Ave<br>South Portland, ME 04106 | 1 | EVgo | No | No |
| DCFC-7 | DCFC | I-95 | Walmart<br>500 Gallery Blvd<br>Scarborough, ME 04074 | 4 | Electrify America | Yes | TBD** |
| DCFC-5 | DCFC | Route 1 | Bill Dodge Nissan<br>852 Portland Rd<br>Saco, ME 04072 | 1 | None | No | No |
| DCFC-4 | DCFC | I-95 | Maine Turnpike Kennebunk North Service Plaza<br>Kennebunk, ME 04043 | 4 | ChargePoint | No | TBD** |
| DCFC-3 | DCFC | I-95 | Exit 25 Kennebunk South Service Plaza<br>Kennebunk, ME 04043 | 4 | ChargePoint | No | TBD** |
| DCFC-2 | DCFC | Route 1 | Simon Kittery Premium Outlets<br>375 US-1<br>Kittery, ME 03904 | 4 | Electrify America | No | No |
| DCFC-1 | DCFC | Route 1 | Hannaford Supermarket<br>5 Hannaford Drive<br>York, ME 03903 | 1 | EVgo | No | No |

** if selected in competitive rounds of EV charging infrastructure bidding

**Graphic 15:** *Map showing designated AFCs and existing and under-construction universal DCFC chargers located within 1 mile of the corridors.*



# EV Charging Infrastructure Deployment

NEVI formula funding will enable Maine to continue expanding EV charging infrastructure. Maine expects by 2024 to have operational DCFC stations, generally no more than 50 miles apart, for the entire length of Maine's interstate and then continue for the rest of Maine's AFCs. MaineDOT has set aside matching funds to cover 20% of local match requirements for NEVI-funded projects in parts of the state that may require additional funding to attract private investment. Match requirements may be different for each RFP/project. Maine will make efficient use of federal funding, such that at least 20% of costs will come from state or private funds. Maine has noted that NEVI dollars are available until expended and will be monitoring both EV adoption and usage of charging infrastructure. Plans will be adjusted accordingly, which will prevent getting ahead of demand (for charging infrastructure) in some locations while falling behind demand in other locations.

In addition to the NEVI formula funds, Maine has an estimated $1M in NECEC funds and $8M in ARPA funds, and has applied for over $15M in discretionary CFI grant funds. Maine will ensure that each competitive solicitation and funding opportunity that is issued fits with the goals and limitations of its funding source and will continue to pursue other charging infrastructure funding sources actively. These non-NEVI funds will be used for targeted DCFC installations near MUD, rural areas, for lower power charging sites (i.e., L2), for other priority corridors and destinations that are not on AFCs. Maine recently issued competitive solicitations for other priority corridors in Aroostook County (northern Maine) and Washington County (eastern Maine) and for a connection between the two corridors (US Route 1 Calais to Houlton), which will connect two large Tribal communities. Other corridors to be addressed in the future include Route 16 through Piscataquis County.

Maine has studied eight destination towns, three of which are not on AFCs: Millinocket, Greenville, and Rangeley. It will be important for Maine's tourism-dependent towns to have DCFC available in these destinations, in addition to L2 installations at lodging and other locations. Maine will participate in discussions about EV travel to and from Canada and neighboring states with high rates of EV adoption to ensure that the alternative fuel corridors designated in Maine will be spaced no more than 50 miles from the next EV charger in the neighboring state or province.

## Planned Charging Stations

Maine is committed to supporting a statewide charging infrastructure network that will accelerate the equitable adoption of EVs, including for those who cannot reliably charge at home. At the same time, Maine faces significant challenges; these include low population density, remote stretches of important roads where limited or no electric service is currently available, a high percentage of state road mileage, and below-national-average per capita income. (See Plan Vision and Goals section for more discussion.) At this time, 64% of the sites proposed (new or upgraded) are located in or directly adjacent to disadvantaged communities.[31] This considered the exact locations of existing locations that are proposed for potential upgrades.

As mentioned above, Maine had previously proposed and had been approved for a staged approach that would have allowed a wider distribution of funds across the AFC that were less than the four 150 kW chargers at each site. However, the Plan has shifted since the release of the minimum standards and requirements earlier this year. Most of the existing DCFC stations on AFCs do not meet the NEVI requirements for being fully built out. With this in mind, Maine will likely not be able to fill all the gaps that have been identified with the available NEVI formula funds but will continue working towards the goal of a fully built out designated AFC and will seek additional funding from the discretionary funds and other EV charging funds that become available. For sites that need to be upgraded to comply with 23 CFR 680, these sites may respond to the relevant competitive RFPs. If the existing site hosts do not respond to the RFP or do not submit a satisfactory proposal, the state will look to establish new sites along the corridor that will also meet the requirements of 23 CFR 680.

[31] *https://anl.maps.arcgis.com/apps/webappviewer/index.html?id=33f3e1fc30bf476099923224a1c1b3ee*

Maine has noted that NEVI dollars are available until expended and will be monitoring both EV adoption and usage of charging infrastructure. Plans will be adjusted accordingly, which will prevent getting ahead of demand (for charging infrastructure) in some locations while falling behind demand in other locations.

**Graphic 16:** *Table of DCFC sites currently under construction, including all funding sources.*

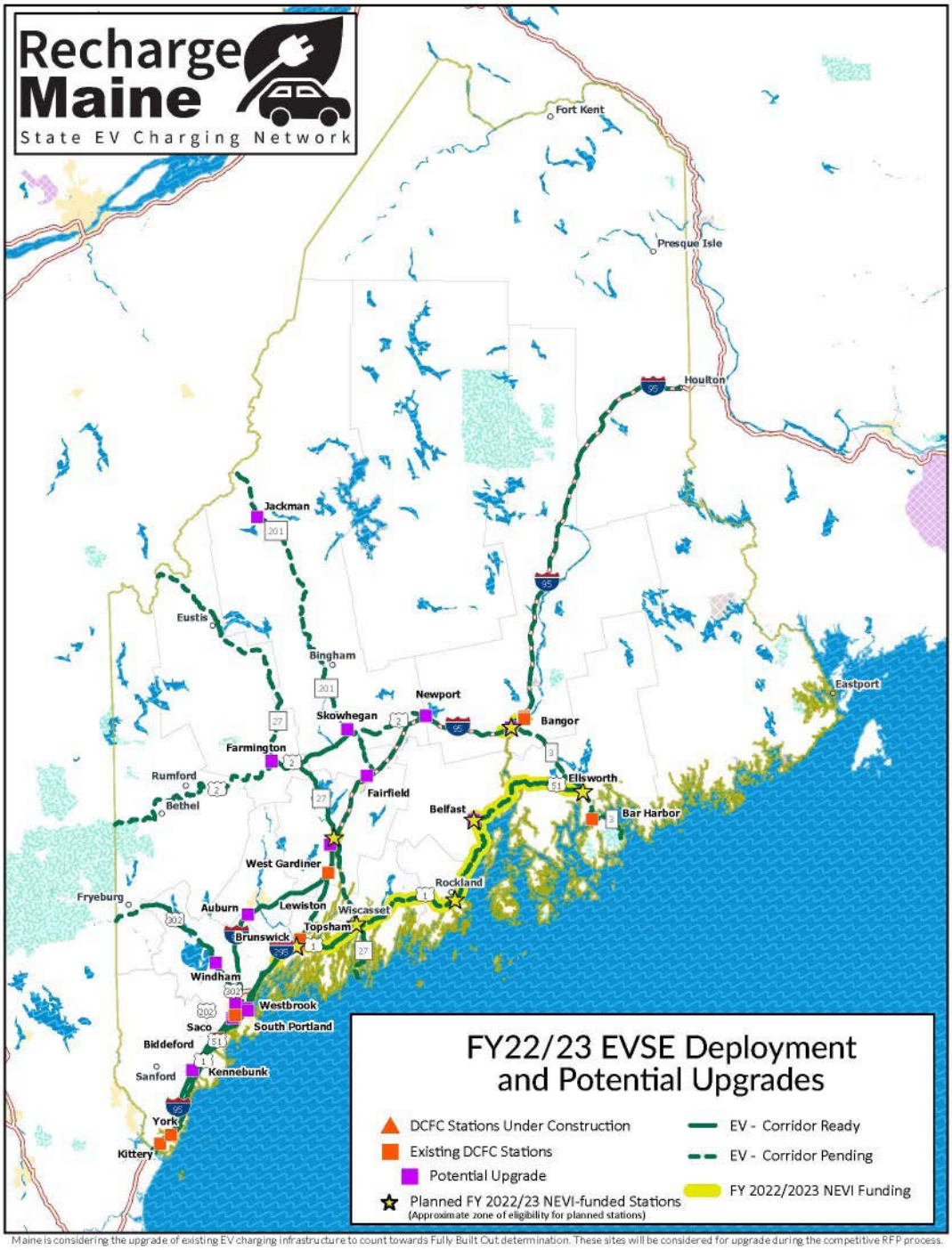
| State EV Charging Location Unique ID | Route (note if AFC) | Location (street address, if known) | Number of Ports | Estimated Year Operational | Estimated Cost | NEVI Funding Sources (Choose No NEVI, FY22/FY23, FY24, FY25, FY26, or FY27+) | New Location or Upgrade? |
|---|---|---|---|---|---|---|---|
| DCFC-40 | Route 1 (AFC) | 225 High St, Ellsworth | 2 | 2023 | Not available | No NEVI | New |
| DCFC-41 | Route 1 | 88 Main St, Van Buren | 3-4 | 2024 | Not available | No NEVI | New |
| DCFC-42 | Route 1 | 32 Houlton Rd, Baileyville | 3-4 | 2024 | Not available | No NEVI | New |
| DCFC-43 | Route 1 | 800 Main St, Presque Isle | 3-4 | 2024 | Not available | No NEVI | New |
| DCFC-44 | Route 1 | 308 W. Main St, Fort Kent | 3-4 | 2024 | Not available | No NEVI | New |

**Graphic 17:** *Table of proposed DCFC sites for NEVI funding.*

| State EV Charging Location Unique ID | Route (note if AFC)* | Location (street address, if known) | Number of Ports | Estimated Year Operational ** | Estimated Cost | NEVI Funding Sources (Choose No NEVI, FY22/FY23, FY24, FY25, FY26, or FY27+) | New Location or Upgrade?*** |
|---|---|---|---|---|---|---|---|
| DCFC-45-50 | Route 1 | From Freeport to Ellsworth | 20 | 2025 | $ 4,550,000 | NEVI FY22/23 | New/Upgrade |
| DCFC-51 | I-95 | Exit 109 to Exit 113 in Augusta | 4 | 2025 | $ 850,000 | NEVI FY22/23 | New/Upgrade |
| DCFC-52 | I-95 | Exit 180 in Hamden to 187 in Bangor | 4 | 2025 | $ 1,150,000 | NEVI FY22/23 | New |
| DCFC-53 | I-295 / Route 1 / 1A | Portland | 4 | 2026 | $ 1,150,000 | NEVI FY24 | New/Upgrade |
| DCFC-54 | Route 2 | From Rumford to Dixfield | 4 | 2026 | $ 850,000 | NEVI FY24 | New |
| DCFC-55 | Route 302 | North Windham | 4 | 2026 | $ 1,150,000 | NEVI FY24 | New/Upgrade |
| DCFC-56 | Route 302 | From Bridgton to Fryeburg | 4 | 2026 | $ 850,000 | NEVI FY24 | New |
| DCFC-57 | Route 2 / 27 | Farmington | 4 | 2027 | $ 1,150,000 | NEVI FY25 | New/Upgrade |
| DCFC-58 | Route 2 / 201 | Skowhegan | 4 | 2027 | $ 1,150,000 | NEVI FY25 | New/Upgrade |
| DCFC-59 | Route 2 / I-95 | Newport | 4 | 2027 | $ 1,150,000 | NEVI FY25 | New/Upgrade |
| DCFC-60 | Route 201 / I-95 | Fairfield | 4 | 2028 | $ 1,150,000 | NEVI FY26 | New/Upgrade |
| DCFC-61 | I-95 | Lewiston / Auburn | 4 | 2028 | $ 1,150,000 | NEVI FY26 | New/Upgrade |
| DCFC-62 | Route 201 | Jackman | 4 | 2028 | $ 1,150,000 | NEVI FY26 | New/Upgrade |

*All planned sites are on AFCs
**Estimate Year Operational is based on planned NEVI funding source year and are subject to change
***Existing sites may be upgraded if proposal is selected through competitive bid process

**Graphic 18:** *Map of existing DCFC sites (new and upgrades) along the designated AFC and planned NEVI sites for FY22/23 NEVI funding.*



Maine is considering the upgrade of existing EV charging infrastructure to count towards Fully Built Out determination. These sites will be considered for upgrade during the competitive RFP process.

### Planning Towards a Fully Built-Out Determination

Maine carefully examined locations of existing DCFC charging locations, distance from designated AFC corridor, #ports/stations, available kW, distance between locations, and other characteristics indicative of meeting the minimum standards for EV charging infrastructure under 23 CFR 680. Maine then considered whether upgrades could be made to each of these sites so that they would be compliant with the minimum standards. And lastly, Maine identified how many additional stations were needed to fill the gaps between existing chargers to space the chargers no more than 50 miles apart.

Maine has been carefully building a plan to Recharge Maine that includes not only NEVI funds but additional funding sources, without which buildout of the AFCs would not be possible. The 17 planned stations included in the above table represent the sites that will be funded using NEVI dollars. In addition to these 17 planned sites (10 potential upgrades, seven new sites), Maine also included 6 AFC sites in the CFI corridor grant program application, 3 of which are also destination sites. These six sites are also necessary to build out the AFC corridor. Maine is hopeful that the existing designated AFCs could be fully built out by the end of 2028 but recognizes that it will be difficult without sufficient funding to supplement these NEVI funds.

## Implementation

The Partnership will build on experience gained over the past four years. Maine's RFP for the installation of charging infrastructure using NEVI funds (RFP EM-011-2023)[32] has been updated to ensure compliance with the National Electric Vehicle Infrastructure Standards and Requirements (23 CFR 680), including the technical aspects of chargers, such as connector types, power levels, minimum number of charging ports per station, minimum uptime (reliability standards), and payment methods; data submittal requirements, workforce requirements for installation, operation, or maintenance by qualified technicians; interoperability of EV charging infrastructure; traffic control devices and signage; network connectivity; and publicly available information. Several EV manufacturers, including Ford, General Motors, Rivian, Nissan, Volvo/Polestar, and Mercedes, recently announced that they would be adopting Tesla's NACS technology and charging ports. Maine intends to require CCS connectors on all NEVI-funded chargers at a minimum and is investigating how also to include the NACS connector while ensuring the sites meet other requirements, such as cybersecurity and permanent attachments. The NACS connector was excluded from the RFP that was posted in the Spring of 2023; the Partnership may consider negotiating a change order for these sites at a later date.

The recipient of the funds is responsible for operation and maintenance tasks and must maintain the EV chargers for at least five years, be responsible for ensuring maintenance of chargers, ensure an average annual uptime of 97%, notify appropriate information sources (including Efficiency Maine) if the chargers will be down for more than 4 hours, provide a snow removal plan, and list the charger on PlugShare.com and the Alternative Fuels Data Center Electric Vehicle Charging Station Locator. Siting for charging infrastructure will consider Maine's designated evacuation routes. This will include the scenario in which too many people are trying to use the charging stations at once during natural disaster events and extended, widespread grid outages.

Per the RFP, the recipient must provide customer support services such as ensuring customers have a mechanism to support outages, malfunctions, and other issues with charging infrastructure in multiple languages; be available 24/7 via a toll-free phone number posted at the charger, provide customer service for the duration of the contract, and be able to resolve customer issues over the phone. The standard agreement states that if the recipient fails to meet the annual uptime, customer service, and reporting requirements, a Service Level Agreement (SLA) that is part of the contract will result in a portion of the awarded incentives being withheld.

[32] *https://www.efficiencymaine.com/docs/Phase5_RFP_011_2023.pdf*

Efficiency Maine requires the recipient to submit progress reports that provide status reports on the site development and permitting, construction and installation, operation and maintenance, data capture, and customer service. The RFP includes data capture and reporting requirements consistent with 23 CFR 680.112, such as the quarterly data submittal, annual data submittal, and one-time data submittal, third-party data sharing. Additionally, as required by 23 CFR 680.116, the RFP requests that recipients ensure that data fields, including charger station name, address, geographical coordinates, network, station status, access information, charging port information, and pricing and payment information are available to third parties free of charge.

Maine will continue to use competitive bidding, with multiple contracting/ownership options, as its primary procurement strategy. Efficiency Maine has working relationships with several charging infrastructure service providers and property owners who participate in stakeholder discussions around EVs and charging. Maine will use its contracting websites to publicize RFPs. Efficiency Maine has a mailing list of over 1,600 subscribers and will continue to notify them before any new solicitations. In addition, Efficiency Maine will continue identifying and contacting local stakeholders for geographically targeted solicitations. Efficiency Maine has produced four instructional videos on EV chargers, including "Reasons to Install a Public EV Charger" and "What Makes a Good EV Charging Site?" and others. The videos are geared towards potential private owners who might be swayed to install an L2 charger with little/no incentive dollars.

Additionally, the RFP includes requirements to ensure strong labor, safety, training, and installation standards. The recipients are required to obtain relevant permits required for the installation and operation; ensure the workforce meets the standards in 23 CFR 680.106(j); ensure installation work is consistent with the manufacturer's specifications and project designs, in accordance with zoning and code requirements, and is working properly; and ensures coordination of the installation activities with the equipment manufacturer, host site, network service, electric utility, and any subcontractors. Efficiency Maine maintains a list of local and national contractors who install EV charging equipment. It is not uncommon for an energy services company to use this list to find a local electrician who can do the connection wiring for charging infrastructure installation. See more under Labor and Workforce Considerations.

## Equity Considerations

Since its inception in 2019 (June 2019, LD 1679 was signed into law), the MCC has included equity considerations in its discussions and analyses. At the request of the MCC, the University of Maine prepared "Assessing the Potential Equity Outcomes of Maine's Climate Action Plan: Framework, Analysis, and Recommendations," which was issued in September 2020.[33] MCC issued Maine Won't Wait in December 2020. It added important context to the goal of reducing greenhouse gases, namely: creating economic opportunity, preparing communities/ people for the impacts of climate change, and advancing equity.[34] *Maine Won't Wait* recommended a new Equity Subcommittee, which issued final recommendations in March 2023.[35] That report leads with the transportation sector and addresses equity issues related to electrification. The 2022 EV Charging Infrastructure Plan was referenced in the ESC work. Through the ESC's process, they identified general criteria for four types of prioritized communities in Maine; low-income, rural, disadvantaged, and frontline. The geographic location and needs of these prioritized communities have been thoughtfully considered in the development of this 2023 Plan. These efforts included robust outreach, as described in the Public Engagement section. The ESC is co-chaired by a representative from one of Maine's tribal communities and includes a representative from the Maine Public Health Association, Maine Equal Justice, Aroostook County Community Action Program, the AARP, and the Maine Council on Aging.

[33] http://climatecouncil.maine.gov/future/sites/maine.gov.future/files/inline-files/MCC_EquityAssessmentReport_201007.pdf

[34] *Maine Won't Wait*

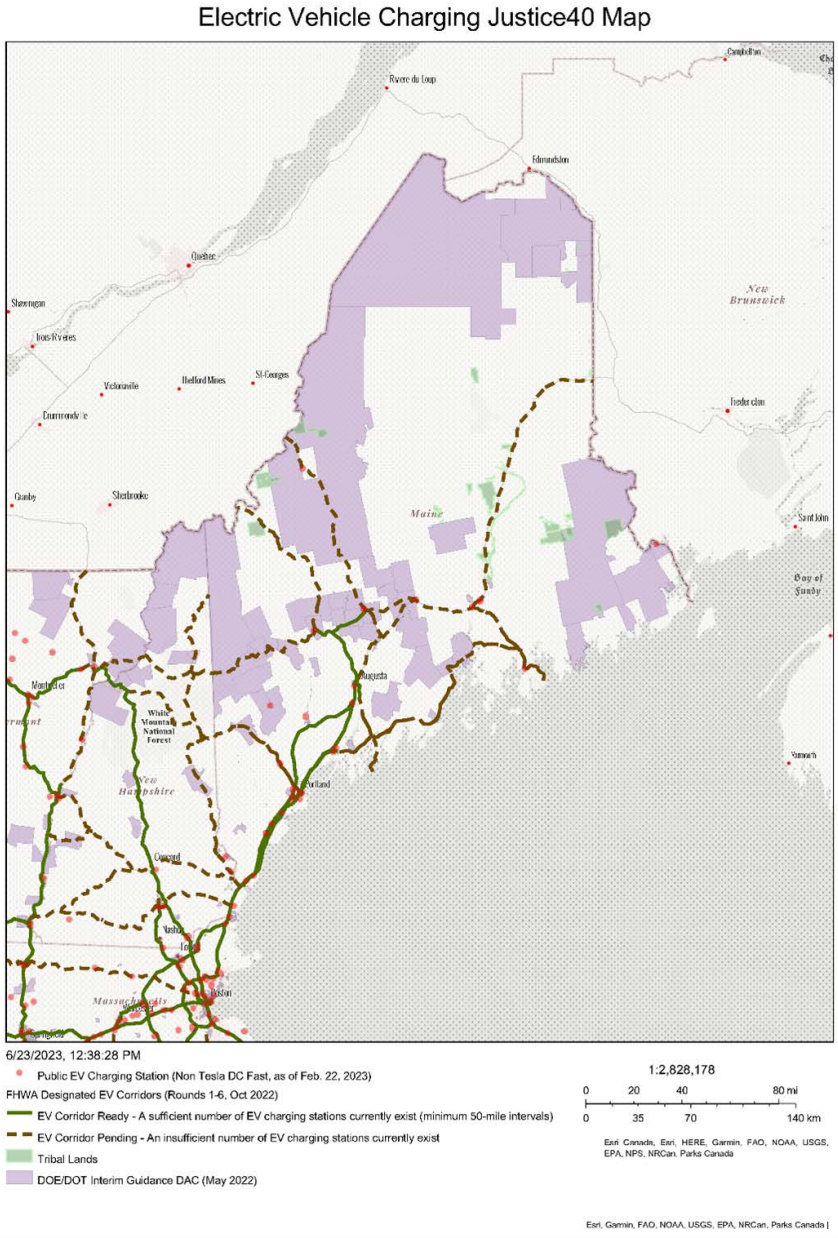
[35] *Final Recommendations of the Equity Subcommittee.*

Engagement through the TWG and ESC has identified issues such as the barrier of at-home charging and the lack of 2-vehicles/home in lower-income families. Recognizing these as current challenges, there's also an opportunity. Low-income families spend a higher percentage of their income on transportation. This is a hardship, but it also means that these populations will see a larger benefit – but only if efforts to establish lower-cost electrification can reach them. Electrification of vehicles that pass through urban areas would disproportionately benefit those who live in Maine's urban areas.

## Identification and Outreach to Disadvantaged Communities (DACs) in the State

Maine's NEVI Plan has considered rural, underserved, and disadvantaged communities from the very beginning of Plan development. Since the FHWA guidelines were released, Maine has used the Electric Vehicle Charging Justice40 Map[36] to identify the DACs (below). The Partnership recognizes that EV chargers can have large benefits in DACs, from the decrease in harmful emissions to cost savings through personal fuel savings and increased tourist and through-traffic spending. It's important for these benefits to be spread widely across the state. The NEVI Plan builds off the work of the TWG and the ESC of the MCC, both of which have had public engagement sessions.

**Graphic 19:** *Electric Vehicle Justice40 Map*[37]




[36] & [37] *Justice40 Map*

MaineDOT shared the EV Charging Infrastructure Plan's VPI website with Climate Council Members and ESC members, which include members or representatives of the elderly, rural, low-income, and other social vulnerability communities, to encourage communities to review the Plan's content and provide feedback. Maine is looking to engage with these communities to understand priorities and how the EV infrastructure could benefit these communities.

As noted above in the Existing and Future Conditions Analysis section, Maine is predominantly rural, as considered by any of the frequently used rural definitions. Efficiency Maine has coordinated with municipalities and the public to spread awareness and solicit interest for select eligible segments that are in particularly rural areas and likely to have fewer bidders; in preparation for an RFP funded by ARPA, Efficiency Maine engaged with Northern Maine Development Corp and the City of Presque Isle and held public meetings and webinars to encourage public engagement.

The rural nature of Maine presents a special set of challenges – and opportunities. As noted earlier, charging infrastructure, especially DCFC has been concentrated in the higher population, usually wealthier, southern, and coastal regions. NEVI formula funding, combined with other available funds (CFI discretionary grant and ARPA), will enable Maine to reach a key milestone, namely extending DCFC to complete coverage of the northern interstate. The I-95 Bangor to Houlton corridor spans very sparsely populated areas, most of which are DACs. Covering the whole interstate will dramatically improve EV access to Aroostook County.

NEVI guidance requires funds to be used to build out the AFC before funds can be spent in other locations. With limited flexibility of where we can spend the funds (less than one mile from AFC), Maine is working to use the NEVI funds in DAC areas. The NEVI guidance recommended that states use the Electric Vehicle Charging Justice40 Map to identify disadvantaged communities across the state to ensure that all communities are benefiting from the NEVI funding. **At this time, approximately 64% of proposed charging stations in this Plan are in or directly adjacent to DACs;** Maine plans to ensure that more than 40% of NEVI funds benefit DACs through tracking of benefits in Graphic 20. Maine has other funds for EV charging that have more flexibility and is using this other funding to provide on-street and parking lot L2 and DCFC to low-and moderate-income communities as well as L2 and fast chargers in rural communities.

## Process to Identify, Quantify, and Measure Benefits to DACs

Maine sees the value in the benefits that EV chargers have in communities, especially those identified as DAC. EV chargers can encourage tourists and locals to stop and spend money in town. They provide locals with an opportunity to save on fuel costs and can reduce emissions associated with the use of internal combustion engines. Maine proposes to measure the benefits that the NEVI-funded DCFC provides DAC areas, as summarized in Graphic 20. Benefits categories are still in development and subject to change due to updates to guidance or feedback received during stakeholder engagement process.

**Graphic 20:** *Table of DAC Benefits and Strategy for Tracking.*

| Benefits Category | Strategy for Tracking Benefits (Metrics, Baseline, Goals, Data Collection & Analysis Approach, Community Validation) |
|---|---|
| Improve clean transportation access through the location of chargers; | |
| | % of DCFCs located in or within 2 miles of DACs, the goal would be at least 40% of chargers. Efficiency Maine can access this data and share results during next year's NEVI Plan public engagement. |
| Decrease the transportation energy cost burden by enabling reliable access to affordable charging; | # charging sessions at DCFCs in DACs, the goal is an increase over time; Efficiency Maine has access to this data, share results during next year's NEVI Plan public engagement. |
| Reduce environmental exposure to transportation emissions; | kWh energy used by DCFCs in DACs, the goal would be to see an increase in # charging sessions and energy use over time, would use energy use (Efficiency Maine has access to this data) to calculate approximate emissions savings, share results during the next year's NEVI Plan public engagement. |

# Labor and Workforce Considerations

Charging infrastructure projects are and will continue to create new, high-paying job opportunities for workers in electrical and other trades while also creating opportunities for the skilled incumbent workforce. In anticipation of the work associated with the NEVI Plan, Maine is planning ahead in building its workforce. The Partnership is working to ensure that the workforce can obtain the necessary training to install the EV infrastructure reliably; MaineDOT's Chief Engineer engaged with the International Brotherhood of Electrical Workers (IBEW) in Maine to discuss EV infrastructure training. MaineDOT's Commissioner and Chief Engineer met with Maine's Commissioner of Labor and staff to discuss how to work together to deliver the NEVI program and future charging. The Department of Labor works with Maine's Community College; MaineDOT intends to explore further introducing EV charging and EV car maintenance to appropriate disciplines. The Maine Legislature also just passed a bill that "amends the laws governing licensing of electricians to eliminate an unintended barrier for applicants seeking to complete the requisite electrical education needed to qualify to take an examination and requires the Electricians' Examining Board to establish in rule the minimum curriculum requirements for a program of study."[38] This bill may increase the electrician workforce.

The GEO established a Clean Energy Partnership Program (CEP), a public-private partnership that has awarded $2.5M in grants (using ARPA funding) to clean energy employers, educational institutions, industry associations, and nonprofit organizations to develop new curricula, provide technical training and experiential learning, deploy new job placement services, and perform other activities related to workforce development and training. The CEP complements an initiative set forth by Governor Mills to create 30,000 clean energy and energy efficiency jobs by 2030. The GEO, via the CEP, is pursuing funding (Ride and Drive Electric FOA through the Department of Energy's Joint Office of Energy and Transportation) to support the scaling of existing and emerging electric vehicle maintenance and repair technician training programs and to support the development of curriculum and training programs that strengthen the supply of EVSE installation and maintenance technicians in the state. Many schools, including Southern Maine Community College, have already begun incorporating EV mechanics into their mechanics programs.

In addition to building the workforce, the Partnership is working to incorporate compliance with the qualified workforce requirements in the minimum standards. In the RFP, the Partnership requires bidders to identify whether bid team members meet the Qualified Technician requirements in 23 CFR 680.106(j) of the NEVI standards. If the team does not already have the workforce meeting the NEVI standards, they must submit a plan for compliance with the requirements.

# Physical Security & Cybersecurity

Safety is the foundation of every infrastructure project the Partnership undertakes. The Partnership follows FHWA guidelines and employs the Americans with Disabilities Act (ADA) Standards Adopted by the U.S. Department of Justice (2010) and the U.S. Department of Transportation (2006) to ensure all projects follow all safety requirements and comply with national standards.[39] Each competitively selected charging site will undergo a thorough safety assessment prior to a successful applicant receiving funding. The Partnership will mitigate safety risks by ensuring each site has safe ingress and egress with adequate signage, adequate lighting, parking spots of adequate size that are ADA compliant, safe open space void of visual obstructions as well as safe, comfortable, and convenient businesses to visit while charging.

The NEVI RFP requires that station operators collect, process, and retain only the personal information strictly necessary to provide the charging service to a consumer, including information to complete the charging transaction and to provide the location of charging stations to the consumer. They are required to take reasonable measures to safeguard consumer data. Additionally, chargers and networks should be compliant with appropriate Payment Card Industry Data Security Standards for the processing, transmission, and storage of cardholder data. These additional cybersecurity measures for EV charging stations are to address compliance with the minimum standards for EV charging infrastructure under 23 CFR 680.

[38] https://legislature.maine.gov/legis/bills/getPDF.asp?paper=HP1102&item=1&snum=131

[39] https://www.access-board.gov/ada/

MaineDOT takes physical and cyber security threats seriously, working closely with Federal agencies to ensure cybersecurity systems are in place. MaineDOT considers security when designing and constructing infrastructure that could be vulnerable to physical or cyber-attack.

The NEPA process will inform design efforts and will apply innovative means with respect to NEPA and permitting for NEVI-funded projects through Programmatic Agreements to ensure timely and consistent reviews and to accelerate project delivery. The Partnership will consider locations within a previously disturbed or developed area. Each planned DCFC site is expected to be classified as Categorical Exclusion(s) in accordance with 23 CFR 771.117(c) (23) or c(25). MaineDOT will review each element of the proposed sites and prepare NEPA documentation to ensure compliance with the FHWA NEPA requirements and will screen project components for potential environmental impacts and for eligibility. The Partnership will consider the location of the proposed DCFC with respect to Federal Flood Risk Management Standards and projected sea level rise.

## Program Evaluation

Efficiency Maine will collect and organize all data required by the NEVI rule from the chargers funded through the federal program. This data will be compiled and reported consistent with the NEVI rules. Efficiency Maine's EV Program Managers and Research and Evaluation Manager have been gathering and analyzing data from chargers installed with VW Settlement Funds since 2019 and will be responsible for all relevant measurements and verification to be used in evaluating the progress of this NEVI Plan. MaineDOT also has internal and external audit safeguards. Maine will evaluate the NEVI program at the end of each fiscal year. To help prepare for program evaluations and data submittals, Maine has participated in several Joint Office webinars on EV-Charging Analytics and Reporting Tool (EV-ChART) and will be a part of the pilot group hosted by the Joint Office. Efficiency Maine plans to submit the quarterly, annual, and one-time requirements outlined in 23 CFR 680.112, including, but not limited to, charging station identifier, charging port identifier, charging session start time, end time, any error codes associated with an unsuccessful charging session by port, maintenance and report costs per charging station for the previous year, name and address of the private entity(ies) involved in the operation and maintenance of charters, distributed energy resource installed capacity in kW or kWh, etc.

## Discretionary Exceptions

Maine is considering the upgrade of existing EV charging infrastructure to count towards Fully Built Out determination. These sites will be considered for upgrade during the competitive RFP process. If existing sites are selected for upgrade during the competitive process, it's possible that Maine will request discretionary exceptions at that time if the existing sites do not meet the 50 miles apart or 1 mile from corridor rules. Maine is not requesting exceptions at this time.

and may consider this approach in targeted situations if the need arises. For more discussion of electric grid capacity, please see "Total transportation electrification load from light-duty vehicles, by scenario Outlook: management of vehicle miles traveled" discussion in the Roadmap.

As noted in the Plan Vision and Goals section, Maine will review the results of these studies to fine-tune the deployment of charging infrastructure during the later years of the NEVI formula funding period.